IMPACT OF INTERNATIONAL TRADE PRACTICES ON SMALL BUSINESS

HEARING

BEFORE THE

SUBCOMMITTEE ON ANTITRUST AND RESTRAINT
OF TRADE ACTIVITIES AFFECTING
SMALL BUSINESS

OF THE

COMMITTEE ON SMALL BUSINESS
HOUSE OF REPRESENTATIVE

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IMPACT OF INTERNATIONAL TRADE PRACTICES ON SMALL BUSINESS

FRIDAY, MARCH 23, 1984

House of Representatives, Subcommittee on Antitrust and Restraint of Trade Activities Affecting Small Business, Committee on Small Business,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 2359-A, Rayburn House Office Building, Hon. Thomas A. Luken (chairman of the subcommittee) presiding.

OPENING STATEMENT OF CHAIRMAN LUKEN

Mr. Luken. This subcommittee of the Small Business Committee will now be called to order.

The House is not in session today and many of our members have departed and others have other business. There is a funeral of our chairman's brother over in Baltimore this morning, so we will move ahead.

The subcommittee will begin consideration today of the impact of international trade practices on small business. The 1983 trade deficit was $69.4 billion and the experts unanimously predict it will be a horrendous $100 billion-plus in 1984.

According to Otto Eckstein of Data Resources, Inc., imports have cost 2 million Americans their jobs in the past year. We will seek to ascertain the causes of this industrial decline which threatens to make the United States a debtor nation, whereas we have been the world's creditor. In my own district, Cincinnati, we are especially concerned about the state of the machine tool industry in this country since we have been, and remain, the machine tool capital of the world. But what we are facing perhaps is that the United States will no longer be the center of machine tool activities if something is not done.

We are going to look at one of America's most basic industries, machine tools, which is in the depths of a decline and shows no sign of reversing that decline. Last year's best quarter was still worse than the industry's weakest quarter.

Much of this downturn can be attributed to the influx of imports which have grown from a 4.5-percent share of the U.S. market 20 years ago, to about 37 percent today. There are various explanations. Overvaluation of the dollar is one. But it is also clear that the subcommittee has reviewed that unfair trade practices have been a major cause of the import growth.

We are going to be looking at that in detail. Testimony today will show that this industry was targeted by the Government of Japan, which encouraged creation of a cartel and provided large subsidies to promote the export of machine tools to the United States. Worse, the Japanese concentrated on developing the most sophisticated computer-driven machines. This results in the loss of a more profitable segment of the industry, and also most importantly perhaps, it threatens the security of the United States because the machine tools are a basic industry for our industrial base in our defense effort.

This is too often neglected or passed over lightly. Those of us who are unfortunately able to personally recall World War II know how crucial the defense mobilization effort can be at a time of all-out mobilization. The recent occurrence, I believe it was in the Sea of Japan, with a Russian submarine, in a collision with one of our carriers, demonstrates the vulnerability of our sealanes at a time when the shipment of these large machines, en masse, in a massive way, would be required if we lose our industrial base, our defense base, in the production of machine tools.

So that is enough testimony from me. We will begin as soon as we give the members of our subcommittee who are here an opportunity to make any opening statements. Mr. Chappie.

Mr. CHAPPIE. No, Mr. Chairman.

Mr. LUKEN. Mr. Gonzalez.

Mr. GONZALEZ. I don't have any statement.

Mr. LUKEN. Mr. Hayes.

Mr. HAYES. I have no statement.

Mr. LUKEN. All right, we will call first on Mr. William Copeland, president of Copeland Economics Group, Inc., of Stamford, CT.

Mr. Copeland, we will rule in advance that your statement and the statements of the other witnesses scheduled today will be received in toto into the files of the subcommittee and you may abbreviate it or summarize it or present it in any way you see fit. We would like you to stay within 10 minutes.

Mr. COPELAND. Thank you.

Mr. LUKEN. Then we will go into further discussion.

TESTIMONY OF WILLIAM G. COPELAND, PRESIDENT, COPELAND ECONOMICS GROUP, INC.

Mr. COPELAND. Fine. Good morning. My name is William G. Copeland and I am president of an economic consulting and advisor firm. During the past 18 years I and my firm have had a continued involvement with companies that would be considered small by typical American corporate standards. While we serve a broad cross section of industrial America, many of our assignments have involved the machine tool industry, from acquisition analysis to forecasts of machine tool demand. In addition, we have a number of trade groups as clients, one of which is the National Machine Tool Builders Association.

Hence my remarks here this morning are based as a consultant economist who has witnessed a dramatic deterioration in the domestic machine tool industry.

During the past year the Nation's real GNP increased 6 percent and the current quarter will likely show another strong 7-percent type growth. Industrial output has risen 16 percent in the past year with output in the current quarter increasing at an annual rate of 12 percent. Manufacturers' capacity utilization has surged from the 70-percent level a year ago to 80 percent currently; and we believe the typical cyclical laggard capital investment response is a full year ahead of its usual response in an economic turnaround.

Automotive output rose 34 percent last year and in early 1984 domestic production is running 40 percent ahead of last year. The economy has added 4 million new jobs in the past year, the greatest such surge yet recorded. Despite this pattern of favorable macroeconomic conditions, domestic machine tool new orders only rose 24 percent in dollar terms, 20 percent in real terms in 1983. The last time a comparable economic upturn developed, in 1976, domestic machine tool new orders rose 84 percent in dollar terms, 70 percent in real terms.

The U.S. machine tool industry is an industry of small companies. While the 1982 Census of Manufacturers data are not available yet, we believe that when the figures are released, it will show that the largest four companies only account for about 30 percent of all output (by this I mean metal-cutting and metal-forming machines, the two basic types of machine tools).

The largest eight firms will probaly represent about 42 percent of domestic cutting tool shipments and about 40 percent of the forming market. The largest 20 firms will probably represent about 50 percent of all cutting shipments and about 60 percent of forming tools.

In the last published census, there were 1,343 establishments whose primary business was manufacturing either cutting or forming machine tools. Of this number the Census Bureau believes that half (673) of these businesses were very small, that is, less than five employees. These figures probably overstate current conditions because employment in this industry has fallen 41 percent, from 110,000 in 1979 to 65,000 in 1983.

The machine tool industry has a number of characteristics which can be considered somewhat unique when assessing its role in our national industrial structure:

First. It is a very cyclical industry by its very nature. Our monitoring of order and shipment patterns over the last several business cycles indicates that swings of 50 to 70 percent, both up and down, are commonplace, depending of course on what stage of the business cycle we are looking at. The industry is a captive of the investment multiplier process. By that I mean that unless capital investment programs are increasing at an increasing rate, the industry is subject to abrupt wide swings in demand.

Second. It is a core industry. Machine tools are machines that make other machines. These machines in turn produce trucks and autos and railroad equipment, aircraft frames, farm tractors, roadbuilding equipment, household appliances, robotics, power generators; the list is exhaustive. What is important is that machine tool design and production capacity is an integral part of our manufacturing base.

Over the last 25 years the high technology industries have accounted for 75 percent of the growth in the manufacturing sector. And this is the sector which is increasingly being viewed as weakened relative to our competition, that is, in need of economic repair and modernization. Hence they are central to our manufacturing base and the potential changes that might occur in it.

During the last decade, our manufacturing productivity was the weakest of the six major industrialized nations, our investment share of GNP the lowest of this group. Interestingly, Japan posted the best performance in both these areas.

At the present time the General Electric Co. at its Appliance Park, so named for the products produced there, has cut the labor force by 50 percent and reduced breakeven by 25 percent since 1977 by automating production lines.

The AC spark plug division of GM is going to spend $500 million in the next 4 years on new tooling for product development. Other automotive plants are similarly pushing to upgrade the quality and cost competitiveness of their products and subcomponents.

Since 1975, U.S. research and development spending has increased by more than 25 percent in real terms as defense, space, energy, and industrial efforts have expanded. This $80 billion market receives nearly one-half its support from the Federal Government. This growth pattern is expected to accelerate in the near term.

Unfortunately, U.S. machine tool manufacturers are being squeezed from participating in this potential upturn by competitive circumstances beyond their control.

During the 1980–82 period when domestic machine tool new orders were declining 72 percent, foreign imports increased their share of U.S. machine tool consumption by 50 percent, that is, from 24 percent of the market to 36 percent. To my mind, this raises questions about what American machine tool manufacturers were doing or not doing to preserve market share in difficult times. In monitoring industry trends and talking with American manufacturers, a number of major circumstances came to light.

During the late seventies when U.S. machine tool demand began to soar, lengthening delivery times provided a unique opportunity for foreign suppliers to move aggressively into the marketplace in some product lines. Their delivery times were often twice as fast as those of an American supplier, implying either fantastic manufacturing efficiency, gross inefficiency on the part of U.S. firms, or perhaps very forward high-risk planning on the part of several foreign suppliers.

As the market softened in the 1980 downtown with uncomfortably high interest rates, widespread discounting began as foreign suppliers attempted to move product. Most, if not all, American firms resisted such maneuvers. The discounting grew wider and deeper and many U.S. firms were forced to walk away from business. Today, a year after the upturn began, many machine tools are being sold at 30-, 35-, and 40-percent discounts off 1980–81 list prices. A once major producer who attempted to hold his prices and almost went bankrupt has since been sold and resold during the past 4 years.

Machine tool builders who sell and travel about the world market talk about special U.S. prices, that is, foreign machine tool manufacturers selling their product in the United States at substantially lower prices than they do elsewhere. Apparently, it has nothing to do with the state of business conditions; rather it is a basic policy decision.

In addition to the price concessions, many of these suppliers offer unimaginable financing packages. U.S. firms which had typically expected to be paid in 30 to 90 days after delivery have found themselves competing with not only interest-free loans for extended periods, but financing packages that match the depreciation life of the equipment. The final straw is the week or weekend trip to a supplier's factory for the buyer and his spouse. Most people would prefer Osaka or Frankfurt to Cincinnati or South Bend.

While many of these circumstances might seem like acute cyclical competitive practices, fragmentary trade data suggest that Japanese machine tool suppliers have approximately $500 million worth of machine tools inventoried in this country waiting for the upturn and warehouses completely filled back in Japan. Although Detroit may be able to sway a foreign car buyer back to an American made auto in a few years, machine tool users typically make a financial commitment several times the price of the machine tool itself, in terms of employee training, spare parts, manufacturing efficiency, schedules, design changes, et cetera.

Typically, it takes several years of on-the-job training to develop an employee's competence in a cost competitive fashion. Once sold on a particular typeline, customers tend to become a captive market in a very real sense. This trend is being exacerbated by the growing use of what is called FMS, flexible machine system, an integrated system approach to the machinery process. Individual pieces of equipment can be purchased over time to finally build a very efficient system. You cannot start with one manufacturer and switch suppliers halfway through the process. Hence, once a customer is sold on a foreign supplier, American firms are excluded; they are on the outside looking in, as the market grows.

If we put the last few years into the perspective of the last decade, we find a number of basic differences between our economic system and our domestic suppliers and those of foreign suppliers, more specifically Japan.

Machine tools is but one of several industries that have been literally targeted for export growth support.

A very probusiness government was initiated by Professor Demming under General MacArthur immediately following World War II and this attitude has persisted and been refined. In our submitted written statement, we have documented a number of such instances.

Since the Japanese domestic markets tend to be very mature, exports are the growth vehicle.

While Japanese manufacturers utilize a great deal of outside sourcing for components, employment with many companies is a lifelong affair. In the United States we tend to treat labor and management as adversaries until a crisis arises.

Since the 1979-80 period the Japanese yen has been undervalued on the world market. In their fiscal 1982 year, Japan posted a $5.5

billion trade surplus; last year their trade surplus doubled to $11.5 billion. A cheap yen, cheap perhaps by as much as 15 percent, has helped provide a very competitive posture.

Forty percent of all Japanese exports to this country are under some type of voluntary restraint. In the case of machine tools, the Japanese Government set up floor prices in 1978 supposedly to avoid having dumping cases develop in the United States. Given the fact that current market prices reflect 30- to 40-percent discounts from price levels of 1980–81, it seems that any compliance with these floor prices is either nonexistent or has been carefully circumvented.

While we are very optimistic about the economy's prospects in 1984 and 1985 and believe we are in the midst of a capital spending boom, we do not anticipate that the domestic machine tool industry will greatly share in this recovery. Although we estimate that domestic machine tool new orders will increase 67 percent this year and about 30 percent in 1985, we expect comparable increases in import volume, such that the aggregate level of foreign imports, mostly from Japan, will double between 1983 and 1985. Despite the apparent recovery in the domestic order volume, the real level of domestic machine tool orders in 1985, hence sales and shipments in 1986, is likely to be only about half the volume posted in 1980, which was below the peak year of 1979. Thus, even with 3 years of continued economic growth, the U.S. machine tool sector has lost competitive posture.

When you look at the fierce competition in the machine tool market, the multiyear discounting, the sizable warehoused inventories on site here in the United States of Japanese products and the array of data which indicate unusual and prolonged financial support, the notion of a targeted market seems very appropriate. Placed in the context of Japan's national industrial planning efforts, those that we know about that is, it appears as though the free market as we understand it is being stacked against many small machine tool manufacturers.

While there are many cultural and pseudoeconomic differences between our value system and social priorities and those of many foreign manufacturers, the aggregation of economic and financial strength to prevail is clearly out of step with our ideas of competition and seems, to this observer, to be in violation of section 337 of the Tariff Act of 1930.

Left unattended, this erosion of a high technology related industrial base implies a foreign dependency potentially as disruptive as would a growing dependency on imported oil. Basically we are talking about insuring the competitive process in a small, high risk sector of manufacturing.

What is at stake is a loss in the technology race and a further erosion in our ability to become more cost competitive with all our trading partners. We have managed to build the world's best marketplace; now we have to assure ourselves that it is not being undercut by consortium-type efforts we banned long ago under the Sherman Antitrust Act. The players are different but the tactics seem very similar to us.

[Mr. Copeland's prepared statement follows:]

PREPARED STATEMENT OF WILLIAM G. COPELAND, PRESIDENT, COPELAND ECONOMICS GROUP, INC.

My name is William G. Copeland and I am President of an economic consulting and advisor firm. During the past eighteen years I and my firm have had a continued involvement with companies that would be considered small by typical American corporate standards. While we serve a broad cross section of industrial America, many of our assignments have involved the machine tool industry, from acquisition analysis to forecasts of machine tool demand. In addition, we have a number of trade groups as clients, one of which is the National Machine Tool Builders Association. ① Hence, I comment here this morning as a consulting economist who has witnessed a dramatic deterioration in the U.S. domestic machine tool industry.

TROUBLED TIMES FOR AMERICAN TOOLING

During the past year the nation's real GNP increased 6% and the current quarter will likely show another strong 7% type growth. Industrial output has risen 16% in the past year with output in the current quarter increasing at an annual rate of 12%. Manufacturers' capacity utilization has surged from the 70% level a year ago to 80% currently; and we believe the typical cyclical laggard capital investment response is a full year ahead of its usual response in an economic turnaround. Automotive output rose 34% last year and in early 1984 domestic production is running 40% ahead of last year. The economy has added 4 million new jobs in the past year, the greatest such surge yet recorded. Despite this pattern of favorable macro economic conditions, domestic machine tool new orders only rose 24% in dollar terms, 20% in real terms in 1983. The last time a comparable economic upturn developed, in 1976, domestic machine tool new orders rose 84% in dollar terms, 70% in real terms.

While the economy of the United States and, for that matter, those of the western industrialized nations are now dramatically different than they were ten years ago, one of the major differences within the machine tool market is the fact that during the past decade import penetration has increased from 12% of the market to about 36% in 1983. This tripling of import penetration in a period of unusual economic stress threatens to permanently alter the viability of this key industrial sector.

Three years ago the reindustrialization of America was popular rhetoric and supply side economics was in vogue. The severity of the 1981-82 downturn, however, undercut any economic progress and, as a recovery unfolded last year, it became increasingly apparent that major structural shifts remained to be resolved. Today our nation's real GNP is now about 8% higher than the level of 1979 and our industrial output is 5% higher and unemployment is up almost 4½ million. Despite housing's 60% surge last year, start activity was 15% below the 2 million pace of 1977-78 and domestic auto output was 23% below the 1978-79 level. Steel production is currently running at 63% of capacity with output 27% below the levels of the late seventies. Even with continued economic growth through mid-1986, which is our most probable scenario for this recovery, we as a nation will not produce as many new houses, new autos, tons of steel, pounds of copper, machine tools, or even as much milk compared to recent peak levels. In many of these sectors, government policy and/or suasion has been brought to bear to alleviate and ease the transitional trauma induced by the events of the past decade. Such programs have not been extended to the machine tool sector.

We believe the U.S. economy, the western world for that matter, is in a post-Keynesian era. No longer will government stimulus in a slump be considered as the policy objective, no longer will monetary policy be considered secondarily, no longer will budget deficits be considered harmless on the longer term. As a result, governmental policy objectives in both the U.S. and the western world have been rather permanently altered. Consumption is increasingly being viewed as a national phenomenon, savings and investment as economic activities which must be cultivated and motivated.

As a genuine recovery unfolds, the economic enthusiasm of an expansion is being dampened by a fear of the Federal Reserve via higher interest rates. The notion that as business improves, inflation will escalate has been woven into the thinking of the business community by the economic shocks of the past decade as well as by the lack of productivity performance. Caution prevails because there is a subtle yet pervasive sense that economic rationale and values have been altered by the shocks of the seventies. Growth is no longer assumed.

It is within this climate of change that the U.S. machine tool industry is being undercut. When large companies prosper or fail, it becomes a media matter; when large companies merge, it is often considered suspicious because the economic rationale is poorly understood and their ethics are challenged. When small companies prosper or fail or merge, it typically goes unnoticed; yet the vast array of new job opportunities generated during the past twenty-five years have been done so by high technology and service type operations involving small companies.

The U.S. machine tool industry is an industry of small companies. While the 1982 Census of Manufacturers data are not available yet, we believe that when the figures are released, it will show that the largest four companies only account for about 30% of all output (by this I mean metal cutting and metal forming machines, the two basic types of machine tools). The largest eight firms will probably represent about 42% of domestic cutting tool shipments and about 40% of the forming market. The largest twenty firms will probably represent about 50% of all cutting shipments and about 60% of forming tools. In most instances, companies have concentrated on either cutting tools or forming tools so that a particular company may be a sizable producer in the cutting area and a very small manufacturer of forming tools, or vice versa. In the last published census, there were 1,343 establishments whose primary business was manufacturing either cutting or forming machine tools. Of this number the Census Bureau believes that half (673) of these businesses were very small, i.e., less than five employees. These figures probably overstate current conditions because employment in this industry has fallen 41%, from 110,000 in 1979 to 65,000 in 1983. In 1981, the peak year for shipments, the industry shipped $5.1 billion worth of product. Placed within the context of the Fortune 500 ranking of largest firms, this whole industry would typically rank about one hundred among America's largest firms. We anticipate their relative size ranking will be no more than two hundred this year as a strong economy far outruns the upturn in machine tool sales this year.

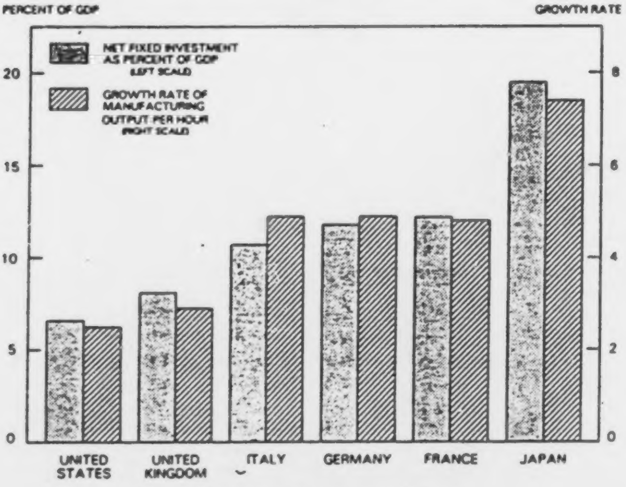
The machine tool industry has a number of characteristics which can be considered somewhat unique when assessing its role in our national industrial structure.

1) It is a very cyclical industry by its very nature. Our monitoring of order and shipment patterns over the last several business cycles indicates that swings of 50-70%, both up and down, are commonplace, depending of course on what stage of the business cycle we are looking at. The industry is a captive of the investment multiplier process. By that I mean that unless capital investment programs are increasing at an increasing rate, the industry is subject to abrupt wide swings in demand.

2) It is a core industry. Machine tools are machines that make other machines. These machines in turn produce trucks and autos and railroad equipment, aircraft frames, farm tractors, road building equipment, household appliances, robotics, power generators; the list is exhaustive. What is important is that machine tool design and production capacity is an integral part of our manufacturing base. Over the last twenty-five years the high technology industries have accounted for 75% of the growth in the manufacturing

sector. And this is the sector which is increasingly being viewed as weakened relative to our competition, that is, in need of economic repair and modernization. Hence, they are central to our manufacturing base and the potential changes that might occur in it. During the last decade, our manufacturing productivity was the weakest of the six major industrialized nations, our investment share of GNP the lowest of this group. Interestingly, Japan posted the best performance in both these areas.]

International Comparison
of Investment and Productivity Growth,
1971-80



SOURCE: ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT.

Many people are familiar with Maslo's ranking of priorities for survival, i.e., food, clothing, shelter, etc. We have, as a highly sophisticated nation, yet to establish an industrial scheme of survival priorities. We have approached the problem in the steel industry, the auto industry, the textile industry, the shoe industry, on a case-by-case basis. We basically seem to believe that big is bad, that all competition is good and efficient, and that either labor or management or both are terribly inefficient when a developed product market like optics or consumer electronics switches from domestic producers to foreign suppliers.

[At the present time the General Electric Company at its Appliance Park, so named for the products produced there, has cut the labor force by 50% and reduced breakeven by 25% since

1977 by automating production lines. An additional $800 million is scheduled to be built at the plant in the next four years. The AC spark plug division of GM is going to spend $500 million in the next four years on new tooling for product development. Other automotive plants are similarly pushing to upgrade the quality and cost competitiveness of their products and subcomponents.

Since 1975 U.S. research and development spending has increased by more than 25% in real terms as defense, space, energy, and industrial efforts have expanded. This $80 billion market receives nearly one half its support from the federal government. This growth pattern is expected to accelerate in the near term.

Unfortunately, U.S. machine tool manufacturers are being squeezed from participating in this potential upturn by competitive circumstances beyond their control.

While inflation is the lowest it has been in years, it has not been lowered by the stabilizing influence of cost competition; rather by the hardship of a severe recession and monetary restraint. Our huge merchandise trade imbalance of almost $61 billion, which rose 67% last year, indicates a growing vulnerability to our whole economy, in terms of job opportunities, in terms of capital flows and resultant pressure on our already high interest rate structure. Although the U.S. economy is clearly in the third stage of modern day development (categorized fifty years ago as an agricultural economy first, an industrialized state second, and a service economy in the third stage), we cannot do without a cost competitive industrial sector if we are to avoid the economic hardship and lowered standard of living that has developed in Great Britain as its industrial base has been undercut by the lack of progress. Washington is a classic example of a service economy; yet it could not function without the electronic communications support of industry, move about without efficient transportation means, feed or house itself without a surrounding industrial base that represents a major portion of this nation's real assets, a consideration which has buoyed the dollar's value in good times and bad and is something often lacking overseas.

During the 1980-82 period when domestic machine tool new orders were declining 72%, foreign imports increased their share of U.S. machine tool consumption by 50%, i.e., from 24% of the market to 36%. To my mind, this raises questions about what American machine tool manufacturers were doing or not doing to preserve market share in difficult times. In monitoring industry trends and talking with American manufacturers, a number of major circumstances came to light.

During the late seventies when U.S. machine tool demand began to soar, lengthening delivery times provided a unique opportunity for foreign suppliers to move aggressively into the marketplace in some product lines. Their delivery times were often twice as fast as those of an American supplier, implying either fantastic manufacturing efficiency, gross inefficiency on the part of U.S. firms, or perhaps very forward high risk planning on the part of several foreign suppliers.

As the market softened in the 1980 downturn with uncomfortably high interest rates, widespread discounting began as foreign suppliers attempted to move product. Most, if not all, American firms resisted such maneuvers. The discounting grew wider and deeper and many U.S. firms were forced to walk away from business. Today, a year after the upturn began, many machine tools are being sold at 30-35-40% discounts off 1980-81 list prices. A once major producer who attempted to hold his prices and almost went bankrupt has since been sold and resold during the past four years.

Machine tool builders who sell and travel about the world market talk about special U.S. prices, that is, foreign machine tool manufacturers selling their product in the U.S. at substantially lower prices than they do elsewhere. Apparently, it has nothing to do with the state of business conditions; rather it is a basic policy decision. One long-time Midwest manufacturer who had 500 employees in 1980 now has less than 200 workers despite the fact that they are continually introducing new products. Foreign suppliers have been continually lowering the price on alternative configurations, effectively pricing U.S. firms out of the business.

In addition to the price concessions, many of these suppliers offer unimaginable financing packages. U.S. firms which had typically expected to be paid in thirty to ninety days after delivery have found themselves competing with not only interest-free loans for extended periods, but financing packages that match the depreciation life of the equipment. The final straw is the week or weekend trip to a supplier's factory for the buyer and his spouse. Most people would prefer Osaka or Frankfurt to Cincinnati or South Bend.

While many of these circumstances might seem like acute cyclical competitive practices, fragmentary trade data suggest that Japanese machine tool suppliers have approximately $500 million worth of machine tools inventoried in this country waiting for the upturn and warehouses completely filled back in Japan. Although Detroit may be able to sway a foreign car buyer back to an American made auto in a few years, machine tool users typically make a financial commitment several times the price of the machine tool itself, in terms of employee training, spare parts, manufacturing efficiency, schedules, design changes, etc. Typically, it takes several years of on the job training to develop an employee's competence in a cost competitive fashion. Once sold on a particular type line, customers tend to become a captive market in a very real sense. This trend is being exacerbated by the growing use of what is called

FMS, flexible machine system, an integrated system approach to the machinery process. Individual pieces of equipment can be purchased over time to finally build a very efficient system. You cannot start with one manufacturer and switch suppliers halfway through the process. Hence, once a customer is sold on a foreign supplier, American firms are excluded; they are on the outside looking in, as the market grows.

When any nation builds expensive inventory here and at home over an extended period of time, particularly a time of worldwide economic slowdown, the competitive process as we think we know it seems to be altered. While they may have reacted very late to the worldwide downturn, particularly the decline in U.S. oil related activities, their current inventories representing six months of sales at recent volume suggest the exportation of unemployment.

If we put the last few years into the perspective of the last decade, we find a number of basic differences between our economic system and our domestic suppliers and those of foreign suppliers, more specifically Japan in this instance.

- Japan as a nation recognized a basic shift in economic values with the onset of OPEC I. As a result, they began to move from high energy process industry to low energy, high technology, high information content products.
- Machine tools is but one of several industries that have been literally targeted for export growth support.
- A very pro-business government was initiated by Professor Demming under General MacArthur immediately following World War II and this attitude has persisted and been refined. ② In our submitted written statement we have reproduced parts of a recent U.S. International Trade Commission investigation (No. 332-155) assessing the competitive postion of U.S. producers of robotics in domestic and foreign markets. This study indicated the active support of the Japanese government in the development of the Japanese product capability. It is an established fact that in 1978, the Ministry of International Trade and Industry (MITI) assigned the Japanese National Electromechanical Laboratory the job of developing a computer system for the 1990s, the so-called "fifth generation computer." Literally an instant institution was established through a consortium of eight companies with an initial $450 million commitment for the first ten years. Additional budgeting reportedly will involve a total of $1 billion. And while Japanese industrial espionage episodes against our computer industry received headline notoriety, their 50% inter-

est in Amdahl (Fujitsu - Japan's largest computer manufacturer) or the attempt to pry confidential new product data from IBM in Europe seem to pass virtually unnoticed.

- Long term capital financing at 6-8%. In the U.S. the typical corporate debt to capitalization ratio is 20-30%. Above that, financing rates become more expensive. In Japan, just the opposite is true: heavy debt and small equity investments. Japan has a national IRA, their postal savings system, and this has allowed the government to run huge deficits without crowding the private capital markets as is the case in the U.S. Since dividends are not tax deductible and interest costs are, our equity financing system of capital is twice as expensive as Japan's heavy debt structure.

- An attractive rate of return is not particularly critical in Japan. Japanese workers receive bonuses every six months based on performance, profit, etc. Managers receive raises over a three year cycle. In the U.S., quarterly earnings per share growth is the usual criterion. If the average investor is patient, Wall Street tells him he should be concerned. Short term performance is important because in the long run we are all dead. That's not the Japanese attitude at all.

- Since the Japanese domestic markets tend to be very mature, exports are the growth vehicle.

- While Japanese manufacturers utilize a great deal of outside sourcing for components, employment with many companies is a lifelong affair. In the U.S. we tend to treat labor and management as adversaries until a crisis arises.

- Since the 1979-80 period the Japanese yen has been undervalued on the world market. In their fiscal 1982 year, Japan posted a $5.5 billion trade surplus; last year their trade surplus doubled to $11.5 billion. A cheap yen, cheap perhaps by as much as 15%, has helped provide a very competitive posture.

40% of all Japanese exports to this country are under some type of voluntary restraint. In the case of machine tools, the Japanese government set up floor prices in 1978 supposedly to avoid having "dumping" cases develop in the U.S. Given the fact that current market prices reflect 30-40% discounts from price levels of 1980-81, it seems that any compliance with these floor prices is either non-existent or has been carefully circumvented.

While we are very optimistic about the economy's prospects in 1984 and 1985 and believe we are in the midst of a capital spending boom, we do not anticipate that the domestic machine tool industry will greatly share in this recovery. Although we estimate that domestic machine tool new orders will increase 67% this year and about 30% in 1985, we expect comparable increases in import volume, such that the aggregate level of foreign imports, mostly from Japan, will double between 1983 and 1985. Despite the apparent recovery in the domestic order volume, the real level of domestic machine tool orders in 1985, hence sales and shipments in 1986, is likely to be only about half the volume posted in 1980, which was below the peak year of 1979. Thus, even with three years of continued economic growth, the U.S. machine tool sector has lost competitive posture.

When you look at the fierce competition in the machine tool market, the multi-year discounting, the sizable warehoused inventories on site here in the U.S. of Japanese products and the array of data which indicate unusual and prolonged financial support, the notion of a targeted market seems very appropriate. Placed in the context of Japan's national industrial planning efforts, those that we know about that is, it appears as though the free market as we understand it is being stacked against many small machine tool manufacturers.

While there are many cultural and pseudo-economic differences between our value system and social priorities and those of many foreign manufacturers, the aggregation of economic and financial strength to prevail is clearly out of step with our ideas of competition and seems, to this observer, to be in violation of Section 337 of the Tariff Act of 1930. Left unattended, this erosion of a high technology related industrial base implies a foreign dependency potentially as disruptive as would a growing dependency on imported oil. Basically we are talking about insuring the competitive process in a small, high risk sector of manufacturing. What is at stake is a loss in the technology race and a further erosion in our ability to become more cost competitive with all our trading partners. We have managed to build the world's best marketplace; now we have to assure ourselves that it is not being undercut by consortium type efforts we banned long ago under the Sherman Antitrust Act. The players are different but the tactics seem very similar. ③

DOLLAR-YEN DILEMMA

U.S. manufacturers obviously compete with foreign goods in quality and pricing. Prices not only reflect the relative costs (materials, labor, energy, etc.) between countries, but also the exchange rate differentials. Traditionally, the dollar-yen exchange rate has been affected by the cumulative current account differences between the U.S. and Japan as well as real interest rate differentials. Since 1981, however, the Organization of Economic Cooperation and Development (OECD) has commented that this classical relationship no longer seems operative. The President's Council of Economic Advisers has also commented on this unusual behavior.

In the 1963-73 decade, world trade grew about 14% annually and Japan gained market share at an average rate of 7%. With the advent of OPEC I in 1973 and OPEC II in 1978-79, world trade slowed and countries adjusted to higher energy costs. During this period, Japan's market share fluctuated in an upward trend with substantial gains made in 1974-76 and 1979-80 when the exchange rate was very competitive. Diagram 1 shows the movement of the real exchange rate and current account position of Japan while Diagram 2 shows the increasing market share of Japanese imports into the U.S. When the yen dropped to the 290 level in 1974-76 and even when it rose to the 218-225 level in 1979-80, Japanese exports experienced major gains in their U.S. market share.

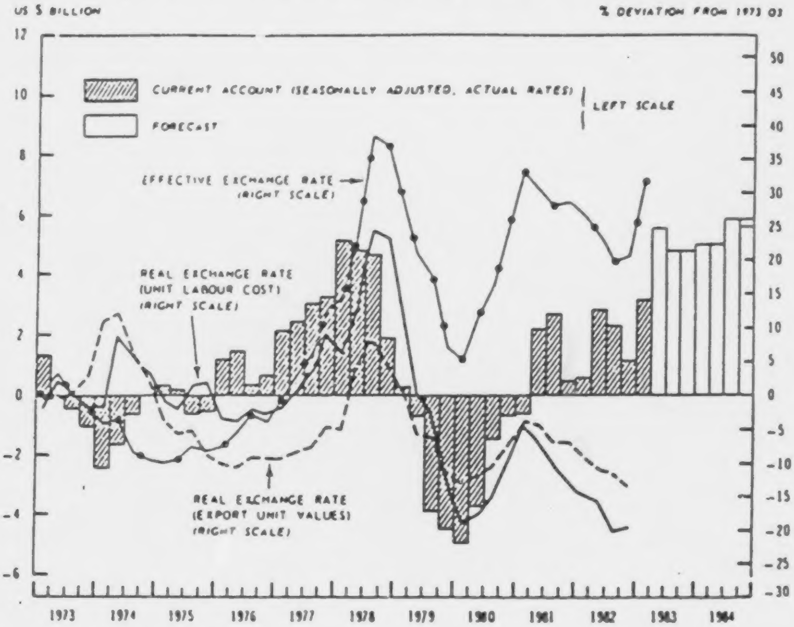
Since 1981 there seems to be general agreement that the yen has been undervalued and the dollar overvalued perhaps by as much as 15%. In addition to this foreign exchange advantage, the Japanese have produced more new products as well as more technologically advanced products. One would expect the Japanese to increase their market share worldwide during this period, but as Diagram 3 indicates, this has generally not been the case in the U.S. market as voluntary restraints in many sectors apparently slowed import penetration. The major exception seems to be the machine tool sector.

There is no satisfactory explanation for the depreciation of the yen, but certainly the mounting protectionism against Japanese exports has been a factor. The voluntary restraints on automobiles has placed a quantity limit on the export growth in this industry. However, the floor-price system for machine tools administered by MITI under the Export and Import Transaction Law has not had the same effect. The Japanese have increased their market share from 24% in 1980 to 36% in 1983 even though the floor price was raised substantially at the beginning of 1983. Despite this floor price, Japanese trading companies are able to either alter the machine or inter-trade, thereby negating the price constraint. With world trade growing at a slower pace and with Japan's market share already very high, the scope for future gains in market share has been reduced regardless of the value of the yen. However, with the

the current floor-price mechanism ineffective in restricting the growth of machine tool exports, this industry seems likely to continue under price pressures.

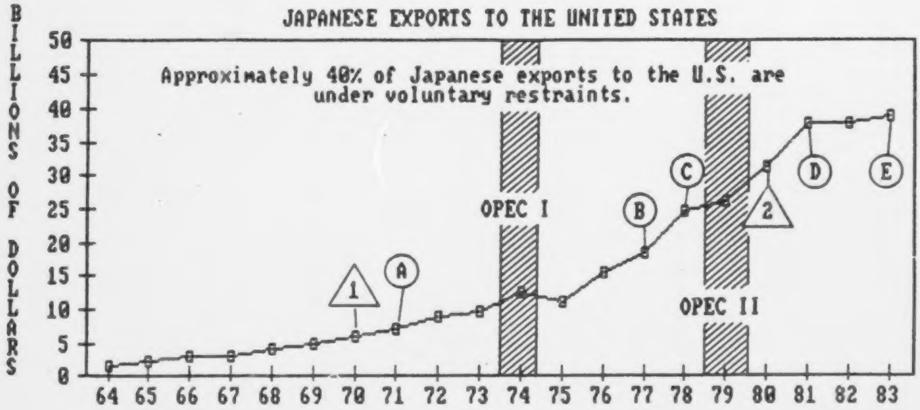
The Japanese have responded to these quantity restrictions by upgrading their product range, particularly by combining advanced electronics to advanced engineering. Since 1980 export prices have risen more than implied by past relationships, as Diagram 3 shows. This has not been the case in the U.S. machine tool market to date although it seems to have occurred in other markets, e.g., autos. Even with these supposed price increases, U.S. machine tools continue to be at a disadvantage because of the foreign exchange differential.

Diagram 1. Current account, external competitiveness and exchange rate



Source: OECD Secretariat.

Diagram 2



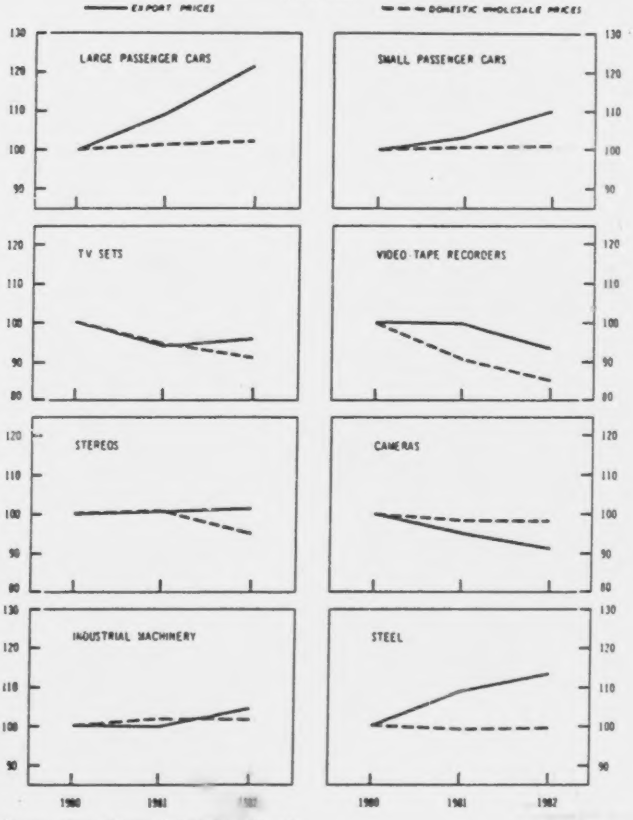
JAPANESE ACTIONS BY THE MINISTRY OF INTERNATIONAL TRADE AND INDUSTRY (MITI)

1. Shift of industrial policy from low growth/productivity sectors (material/labor intensive with high energy cost) to those high growth, knowledge intensive industries with high value-added and technology content.
2. Government policy directed towards industries characterized by large initial investments, long lead times, and integration of technology.

SPECIFIC PROGRAMS

A. 1971: October - Voluntary restraint on manmade fibers and wool textiles.
B. 1977: Negotiated quotas for footwear and color TVs. Establishment of trigger price mechanism in steel.
C. 1978: Voluntary floor prices for machine tools.
D. 1981: April - Voluntary exports of 1.68 million autos.
E. 1983: December - Voluntary auto exports raised by 10%, to 1.85 million units.

Diagram 3. **Export and domestic prices by commodity**
1980 = 100



Source: Bank of Japan, *Price Indexes Monthly.*

AMERICAN MACHINE TOOL PROSPECTS

The U.S. machine tool industry has continued to feel the impact of the economic shocks and dislocations of the seventies in the early eighties. Although domestic order patterns showed a 24% increase for year 1983, this is a far cry from the 84% increase in domestic orders posted in the first year of a recovery following the 1974-75 downturn. While order patterns and shipments should be stronger in 1984 and 1985, domestic machine tool recovery prospects have been seriously impaired by both the direct and indirect effects of pervasive structural shifts that occurred during the past decade.

While the energy and inflation problems received widespread attention in the media, in corporate programs, in public policy decisions in recent years, the legacy of these pervasive influences is still impacting machine tool order patterns in the mid-eighties. Although profitability has soared in the auto sector, reaching $5 billion in 1983 versus a $325 million loss in 1982 and is likely to reach $7 billion this year, Detroit's model programs are not as well defined now as they were in the late seventies. Domestic autos have already gone through two major downsizings and now larger models are in vogue again with stable petroleum prices. Import penetration has risen from 22% in the late seventies to 26% in the early eighties despite Japanese import restraints, shrinking the domestic model market in the process. 1983 model output of vans, light trucks, and similar vehicles was 2.1 million, the highest since the 3.4 million record set in 1979. Market changes such as these, as well as the recent financial calamity in the auto industry during the 1980-82 period, have instilled a new investment and product planning approach. The issues of quality control and cost competitiveness have replaced the emphasis on style or MPG as the main focus. Detroit is revamping both its internal production process and managerial organization (the latest GM announcement is typical) and placing new specifications on its suppliers and component subcontractors.

Detroit has had to rethink how to put an automobile together because of its new emphasis on total car high performance. In the new type of "international" assembly procedures, engines from Brazil are sent to Spain, Mexico, Japan, etc., for further assembly and then returned to the U.S. or sold abroad. GM's proposed joint venture with Toyota in California will have about 40-50% local content in the the final subcompact car assembly plant. The international car market has evolved into the internationally produced car as even Honda and Nissan now operate in Ohio and Tennessee.

Production methods within the U.S. are changing rapidly, too. GM's Saturn Project in Lansing, Michigan, and Buick City operation in Flint have redesigned plants stressing quality and flexibility. As Detroit moves to the "kanban" concept of a just in time delivery, suppliers must be able to deliver parts with 100% quality. Specifications for the components will now be almost as long as the set for the end product. The Saturn Project makes extensive use of modular assembly techniques where components are put together and tested before entering the assembly line. This places a premium on suppliers that can assure quality and that are located within a 200 mile radius of the major plants.

As production methods change, so also do design and research. Detroit is developing closer relationships with suppliers who have a commitment to research and product development. Detroit's engineering problems are now being solved by suppliers who take a systems approach to the interrelationships of the various components they produce. For instance, United Technologies has entered into joint development ventures to develop an electronically controlled fuel injection system for passenger cars and light trucks. By the end of the decade, the thousands of suppliers in today's production schedule may total 200-300 no matter how many cars Detroit produces. Only the suppliers with the financial strength and technical know-how will survive.

Machine toolers will have to increasingly focus on the suppliers who are the creators of new technology and component parts. Important trends in the industry are developing now which will reshape the production process itself, the materials and components which are used, and the end product.

- Within the production process more robotics will be utilized. The simple robots of today used in painting and spot welding will be enhanced by "vision." As much as 80% of all current types of assembly operations can be performed by selective compliance assembly robot arms (SCARA).

- There is a shift from the commodity type components (threaded fasteners) which are volume produced to the specialty component part. Likewise, the present day die is being replaced by one which is designed for quick changes.

- The age of electronics has transformed the options available to Detroit. Products as diversified as fuel injection systems (EFI), air conditioning/automatic temperature control, and electronic fuel gauges and rear-view mirrors are being developed and offered to the consumer. Projections show that the average car will contain $900 worth of electronic items by 1985 and $1,400 worth by 1990 - up from the $250 level of 1980.

- New materials are being substituted for traditional components as cars are redesigned. Aluminum wheels and glass-reinforced plastic are replacing steel.

> The Pontiac Fiero introduced last fall is an all plastic sports car whose body can be restyled without changing the structural elements.

While the macro economic circumstances of the 1979-83 period tend to outline two business cycles, there have been very pervasive changes occurring that will become increasingly evident during the mid-eighties. During the shortlived 1980 downturn, business equipment output changed very little and, in the ensuing short term upturn rose another 10%. During the 1981-82 slump, the production of such equipment declined more than 20%, substantially greater than the falloff during the 1974-75 recession. Perhaps somewhat surprisingly, business equipment demand has turned around since early 1983 and is currently about 12% higher than a year ago. Considering the usual cyclical lag that capital investment traditionally has had in an expansion and the unusually high interest rate climate of the past year, this strength is atypically strong. Such strength, however, has not been reflected in machine tool order patterns.

During the 1979-82 period, there was no increase in real retail trade. Consumer spending for non-auto products showed the longest pause since World War II. Industrial output, which has only recently exceeded its former peak level of July 1981, reflects a level of production 5% higher than in 1979. Hence, industrial America had no net increase in output during the 1979-83 period, the longest such period of economic stagnation since the 1929-32 era.

From the machine tool industry's vantage point, the latest economic interruption to the growth process came on the heels of a longer era of slowing capital investment activity. During the twenty-five year span of 1948-73, high rates of investment generated a 3% average increase in the capital-labor ratio (measured as the rate of net nonresidential capital stock to aggregate hours worked in the private sector). During the last ten years, however, that rate of increase has decline from a 2% pattern to a no-growth condition during the last six years. Although the actual impact of the slower growth of capital stock on productivity performance is difficult to quantify, it is fairly obvious that the sharp slowdown in U.S. productivity is partially explained by this pattern. Increased economic and social regulation has diverted funds from the equipment sector. As socially desirable as many EPA and OSHA operating requirements may be, meeting these goals has often forced postponement of other capital projects. During the past decade the generation of depreciation funds was far short of necessary replacement capital, further inhibiting equipment purchasing.

Despite a number of these broad trends, machine tool orders were extremely strong in 1979-early 1980 as the energy-inflation problems generated unusual demands and immediate revamping programs in the auto and aerospace sectors. As these transportation related programs were completed, however, the sluggish capital investment climate was aggravated by the combination of recession and record high real interest costs. Hence, as the second year of recovery begins, a substantial portion of industrial America has a pent-up demand potential that should have a favorable impact on capital goods in general and machine tool prospects more specifically.

Capital goods' conditions are improving strongly now. Manufacturers have reached the 80% capacity utilization level, up from 70% a year ago, and capacity constraints are apt to develop in the foreseeable future; hence, capital investment programs have assumed new importance. The latest tabulation of new plant and equipment spending this year suggests a 13.6% increase, a program that is now considerably stronger than estimates made just a few months ago. We had been anticipating a 10-12% real increase in capital outlays for 1984 and this latest Commerce report suggests that the real increase may be 12% this year.

While the recent decline in equity market values reflects investor uneasiness, investment in plant and equipment is atypically strong; and per our early fall (1983) analysis, we continue to expect "capital equipment outlays to respond faster in 1984 than economic circumstances would suggest or most analysts believe likely." In recent client meetings we have emphasized that the capital goods' upturn is a year ahead of its typical cyclical pattern, a recovery that is unusually strong given the current interest rate climate versus the more attractive borrowing circumstances in earlier post World War II upturns. We continue to anticipate that real equipment purchasing will increase 10-12% this year, some 16% in dollar terms, while overall plant and equipment spending will probably rise 13-14%.

Investment influences are under constant scrutiny; yet there seems to be a reprioritizing occurring in this cycle. Investment spending decisions typically involve a measure of confidence (i.e., continued economic growth will help foster improved profits, etc.); yet such confidence has been lacking in the business community and the cost of financing is generally considered unattractive. Despite these two very obvious shortfalls, capital investment spending has increased dramaticaally, implying that other, possibly more pragmatic factors are at work:

1) Although manufacturing output increased 16% in the last twelve months helping to boost productivity 8.7%, overall productivity in the nonfarm business sector improved a lackluster 3½%, implying productivity problems as the economy slows from the 6% growth of the last four quarters.

2) Breakeven levels have been substantially reduced during the past two years with 20-30% cost reductions often achieved. The implication is that added equip-

ment will be employed to boost future output to maintain the new cost efficiencies.

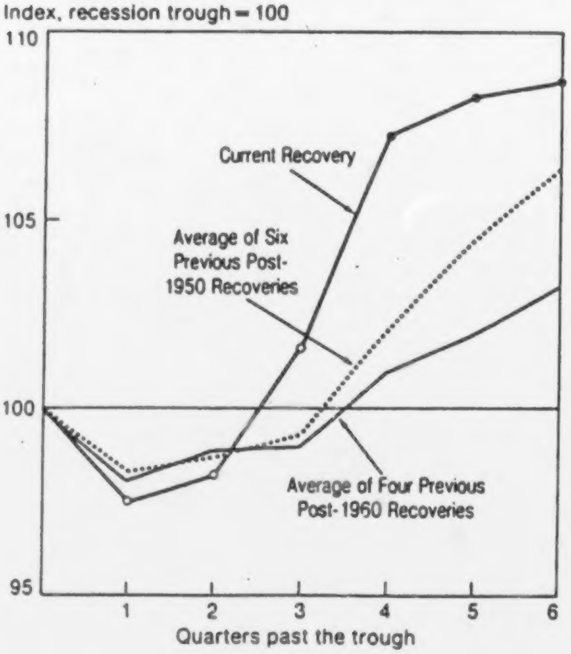
3) Equipment investment, in real terms, had been declining since 1980 and, despite last year's turnaround, was still 5% below that of 1982 and some 12% below that of 1980. Even with a 10% increase this year, such investment spending will still be below that of 1980's level, meaning a four year hiatus.

4) The energy induced investments of the seventies and the dollar dilemma of the early eighties have placed a premium on incorporating the latest technological capability into manufacturing/distribution/communications related equipment.

5) Corporate profits rose almost 20% last year and are likely to increase another 24% this year.

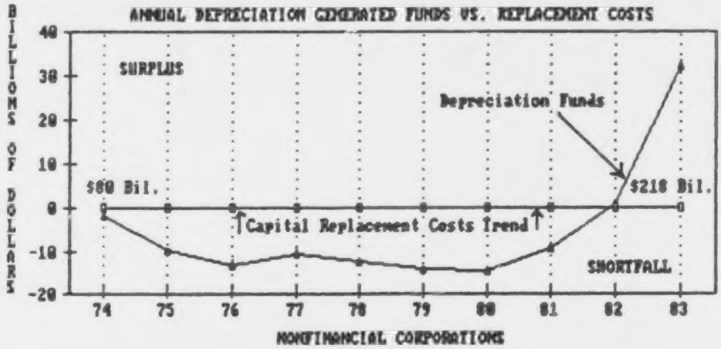
6) Perhaps most atypical in the current economic upturn is the improvement in depreciation generated funds relative to replacement costs. As capital costs doubled during the past decade, the depreciation funds fell far short of replacement monies, constraining

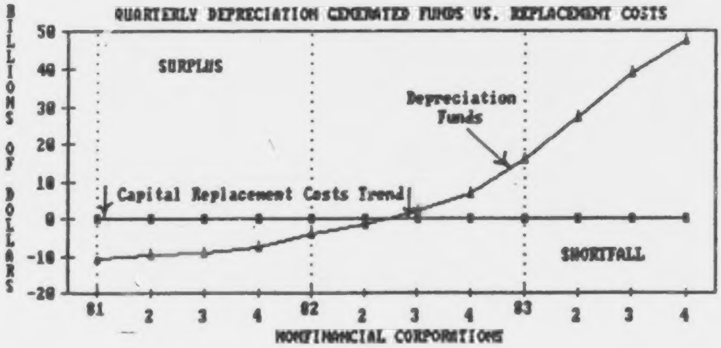
Real Plant and Equipment Expenditures



capital investment in the process. During the past year and a half, however, the shortfall in depreciation funds, which was running at a $12-13 billion rate in 1980-81, has become a $49 billion surplus. Current depreciation funds based on IRS straight line and double declining balance calculations are now running $49 billion ahead of replacement cost financing needs. This swing from shortfall to surplus has alleviated a decade-long financial drain and and provides a new, heretofore unavailable source of corporate funding. While this excess of writeoffs versus replacement costs generated by the tax changes of 1981-82 will narrow during the next two years so that depreciation funds and replacement costs are eventually about equal, the peak difference will probably reach some $55 billion by mid-1984. Hence, the unusual early strength of equipment purchasing is bearing a close relationship to the unusual upturn in corporate cash flow.

In previous cycles there has been a tendency for actual spending to fall short of planned spending during recessions and the early stages of a recovery, i.e., 1982 and early 1983. Beyond the initial recovery phase, however, actual spending





levels have tended to exceed planned outlays suggesting that first and second quarter outlays may be noticeably higher than recent announcements indicate. Manufacturers' capacity utilization has reached the 80% level, a dramatic increase over the 70% operating rate of a year ago; and capital budgets are positive now versus being defensive last year. The most recent spending estimate indicates a 13.6% increase in plant and capital equipment outlays in 1984, a level we anticipate will be exceeded as the combination of rising operating rates, strong cash flow, and continued economic growth all foster an acceleration in investment.

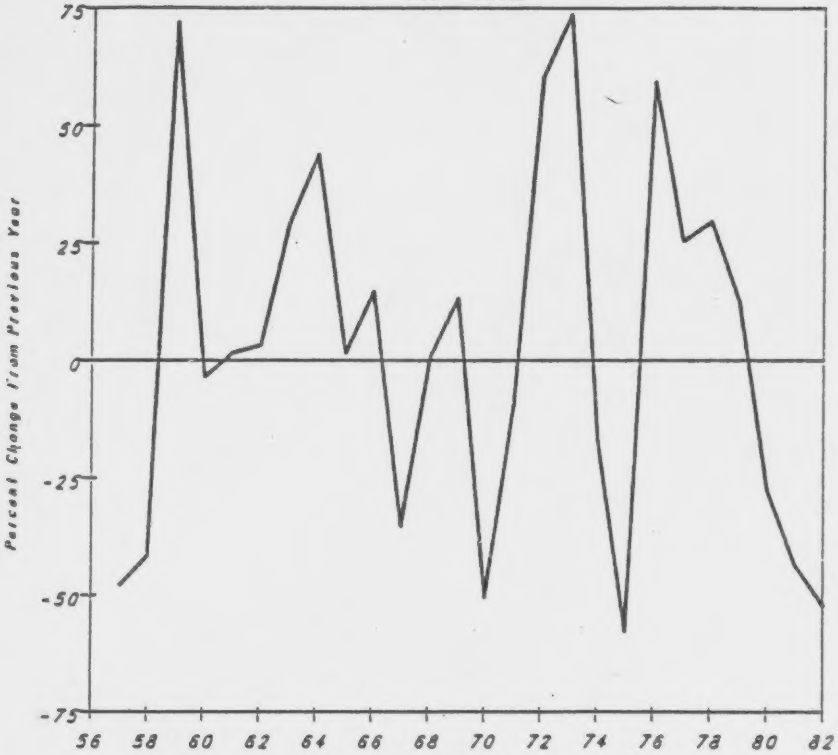
Although there has been a fairly steady two-to-one ratio of real equipment spending to plant outlays, spending for new plant, per se, fell only about half as much during the recent slump as equipment purchasing did. As a result, plant construction is very likely to show minimal improvement in the year ahead as the investment emphasis is on equipment. With business equipment output up 17½% in the last ten months and vendor delivery delays rising noticeably, it seems obvious that the product price weakness in this sector will evaporate and that substantial price increases well above the general rate of inflation are likely to develop in the coming year.

Over the years CEG had developed a number of models reflecting machine tool order patterns. In this analysis we have shown results of our analysis on both incoming order patterns as well as machine tool consumption for both cutting and forming tools. Since shipments are a reflection of the business already booked and reported, we have concentrated our efforts on analyzing new order patterns by considering the import pattern as well.

We have examined domestic machine tool orders for both cutting and forming tools and have added import shipments to domestic orders with a three quarter adjustment, i.e., imports for the third quarter of 1983 represent orders originating in the fourth quarter of 1982. We have made the export adjustment on imports for the past decade and developed a "derived demand" for domestic machine tooling. Although the market penetration of imports has grown dramatically during the past decade, combining both domestic orders and imports allows us to more completely assess machine tool patterns with domestic demand conditions.

The enclosed analysis for both machine tool consumption of cutting and forming tools along with the derived demand analysis yields a high degree of responsiveness to changing business conditions affecting tooling. Based on our expectations of continued economic growth in 1984 and 1985, prospects for machine tool orders are very encouraging as detailed in this analysis.

Year-to-Year Change in
Real Net New Orders of Machine Tools
1957-1982



Source: NMTBA 'Economic Handbook of the Machine Tool Industry, 1982-83' and NMTBA 'Industry Estimate of New Orders, Cancellations, Shipments and Backlog' (monthly).

THE MACHINE TOOL INDUSTRY
By Employment Size of Establishment
For Selected Years

	1958	1963	1967	1972	1977
Number of Companies	890	1,146	1,209	NA	NA
Number of Establishments	918	1,167	1,253	1,277	1,343
Number of Employees	75,366	83,136	116,400	76,600	83,100
1 to 4 Employees					
Establishments	273	375	336	380	434
Employees	571	714	500	800	800
5 to 9 Employees					
Establishments	140	191	189	212	262
Employees	964	1,295	1,300	1,500	1,700
10 to 19 Employees					
Establishments	127	186	222	248	178
Employees	1,738	2,612	3,100	3,400	2,400
20 to 49 Employees					
Establishments	153	182	218	194	219
Employees	4,903	5,643	6,500	6,000	6,700
50 to 99 Employees					
Establishments	77	96	111	89	98
Employees	5,356	6,455	7,700	6,200	6,700
100 to 249 Employees					
Establishments	79	67	79	83	75
Employees	12,666	10,620	12,700	12,500	11,500
250 to 499 Employees					
Establishments	31	31	43	37	41
Employees	10,900	11,249	15,100	12,600	14,800
500 to 999 Employees					
Establishments	26	22	30	24	27
Employees	20,875	15,583	21,400	17,600	21,700(a)
1000 to 2499 Employees					
Establishments	11	14	22	8	8
Employees	17,393	19,236	35,500	16,200(b)	16,600(b,d)
2500 Employees or More					
Establishments	1	3	3	2(b)	1
Employees	D	9,729	12,400	NA	(c)

D - Withheld to avoid disclosure. NA - Not Available.

(a) Also includes data for the "1000 to 2499 Employees" category.
(b) Includes only metal cutting to avoid disclosure.
(c) The number of employees is included in the "1000-2499 Employees" category.
(d) Also includes data for the "2500 Employees or More" (metal cutting) category.

Source: U.S. Bureau of the Census, "Census of Manufactures, 1977 Industry Series: Metalworking Machinery and Equipment, MC77-I-35C," and earlier issues. See chapter introduction.

MACHINE TOOL FORECAST

TOTAL NEW ORDERS

	CUTTING		FORMING		TOTAL	
	$ Millions	% Change	$ Millions	% Change	$ Millions	% Change
CURRENT						
1983						
DOMESTIC	1069.4	20.1%	488.8	31.5%	1558.2	23.5%
EXPORT	82.3	-53.0%	55.8	-9.4%	138.0	-41.6%
TOTAL	1151.6	8.1%	544.6	25.7%	1696.2	13.2%
1984						
DOMESTIC	1890.2	76.8%	705.7	44.4%	2595.9	66.6%
EXPORT	133.0	61.7%	66.8	19.8%	199.8	44.8%
TOTAL	2023.2	75.7%	772.5	41.9%	2795.7	64.8%
1985						
DOMESTIC	2489.1	31.7%	873.8	23.8%	3362.9	29.5%
EXPORT	186.0	39.8%	91.3	36.7%	277.3	38.8%
TOTAL	2675.1	32.2%	965.1	24.9%	3640.2	30.2%
CONSTANT						
1983						
DOMESTIC	341.3	17.2%	148.0	28.5%	489.3	20.4%
EXPORT	26.2	-54.1%	16.8	-12.3%	43.0	-43.6%
TOTAL	367.5	5.5%	164.8	22.7%	532.3	10.3%
1984						
DOMESTIC	586.0	71.7%	206.0	39.2%	792.0	61.9%
EXPORT	41.2	57.2%	19.5	16.1%	60.7	41.2%
TOTAL	627.2	70.7%	225.5	36.8%	852.7	60.2%
1985						
DOMESTIC	737.0	25.8%	243.7	18.3%	980.7	23.8%
EXPORT	55.1	33.6%	25.5	30.6%	80.5	32.6%
TOTAL	792.1	26.3%	269.2	19.4%	1061.2	24.5%

MACHINE TOOL FORECAST

DOMESTIC NEW ORDERS

CURRENT DOLLAR BASIS
($ Millions)

	CUTTING	% Change Year Ago	FORMING	% Change Year Ago	TOTAL	% Change Year Ago
1982 ANNUAL	890.4	-54.2%	371.8	-39.7%	1262.2	-50.7%
1983 Q I	205.9	-37.3%	79.7	-23.3%	285.6	-33.9%
Q II	250.3	15.6%	116.4	34.4%	366.7	21.0%
Q III	305.9	98.6%	133.6	60.4%	439.5	85.2%
Q IV	307.3	60.4%	159.1	62.4%	466.4	61.1%
ANNUAL	1069.4	20.1%	488.8	31.5%	1558.2	23.5%
1984 Q I	406.4	97.4%	156.0	95.8%	562.4	97.0%
Q II	454.4	81.5%	170.9	46.8%	625.3	70.5%
Q III	505.4	65.2%	182.9	36.9%	688.3	56.6%
Q IV	524.0	70.5%	195.9	23.1%	719.9	54.3%
ANNUAL	1890.2	76.8%	705.7	44.4%	2595.9	66.6%
1985 Q.I	562.7	38.5%	204.9	31.3%	767.6	36.5%
Q II	619.8	36.4%	215.1	25.9%	834.9	33.5%
Q III	645.2	27.7%	223.9	22.4%	869.2	26.3%
Q IV	661.4	26.2%	229.8	17.3%	891.3	23.8%
ANNUAL	2489.1	31.7%	873.8	23.8%	3362.9	29.5%

MACHINE TOOL FORECAST

DOMESTIC NEW ORDERS

CONSTANT 1972 DOLLAR BASIS*
($ Millions)

	CUTTING	% Change Year Ago	FORMING	% Change Year Ago	TOTAL	% Change Year Ago
1982 ANNUAL	291.2	-57.3%	115.2	-43.5%	406.4	-54.1%
1983 Q I	66.2	-39.2%	24.1	-26.3%	90.3	-36.2%
Q II	79.7	13.1%	35.3	29.9%	115.0	17.7%
Q III	97.5	95.0%	40.5	59.2%	137.9	82.9%
Q IV	97.9	58.3%	48.2	61.4%	146.1	59.3%
ANNUAL	341.3	17.2%	148.0	28.5%	489.3	20.4%
1984 Q I	128.0	93.4%	46.3	91.8%	174.3	93.0%
Q II	142.0	78.1%	50.2	42.4%	192.2	67.1%
Q III	156.0	60.1%	53.2	31.5%	209.2	51.7%
Q IV	160.0	63.4%	56.3	16.8%	216.3	48.1%
ANNUAL	586.0	71.7%	206.0	39.2%	792.0	61.9%
1985 Q I	170.0	32.8%	58.2	25.7%	228.2	30.9%
Q II	185.0	30.3%	60.6	20.7%	245.6	27.8%
Q III	190.0	21.8%	62.1	16.7%	252.1	20.5%
Q IV	192.0	20.0%	62.8	11.5%	254.8	17.8%
ANNUAL	737.0	25.8%	243.7	18.3%	980.7	23.8%

* Current dollars deflated by Producer Price Index for Machine Tools converted to a 1972 dollar basis.

MACHINE TOOL FORECAST

EXPORT NEW ORDERS

CURRENT DOLLAR BASIS
($ Millions)

	CUTTING	% Change Year Ago	FORMING	% Change Year Ago	TOTAL	% Change Year Ago
1982 ANNUAL	174.9	-38.1%	61.6	-38.4%	236.4	-38.1%
1983 Q I	18.3	-67.7%	11.1	-38.8%	29.3	-60.7%
Q II	19.0	-67.4%	13.4	-37.1%	32.4	-59.3%
Q III	16.3	-44.7%	12.4	-6.1%	28.7	-32.7%
Q IV	28.7	-6.4%	18.9	110.0%	47.6	20.1%
ANNUAL	82.3	-53.0%	55.8	-9.4%	138.0	-41.6%
1984 Q I	28.0	53.4%	13.8	24.9%	41.8	42.7%
Q II	31.0	63.2%	15.6	16.4%	46.6	43.8%
Q III	35.0	114.7%	18.0	45.2%	53.0	84.7%
Q IV	39.0	35.9%	19.4	2.6%	58.4	22.7%
ANNUAL	133.0	61.7%	66.8	19.8%	199.8	44.8%
1985 Q I	41.0	46.4%	21.0	52.2%	62.0	48.3%
Q II	46.0	48.4%	22.7	45.5%	68.7	47.4%
Q III	48.0	37.1%	23.4	30.0%	71.4	34.7%
Q IV	51.0	30.8%	24.2	24.7%	75.2	28.8%
ANNUAL	186.0	39.8%	91.3	36.7%	277.3	38.8%

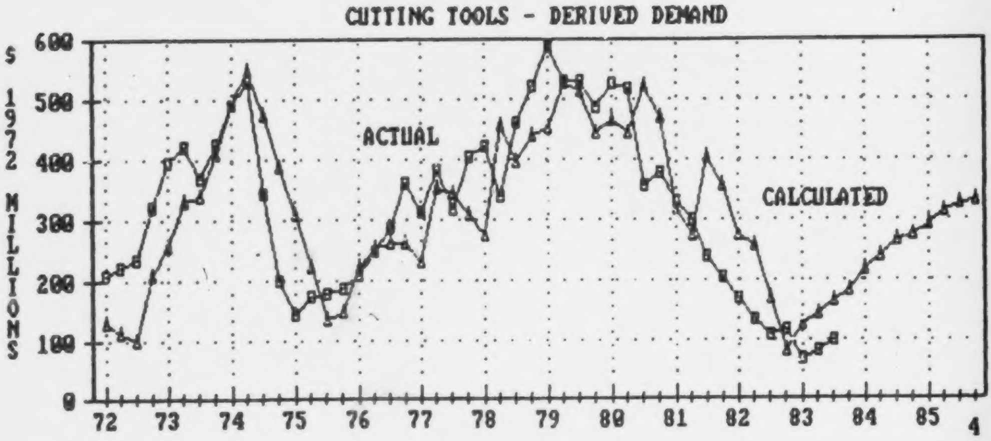
MACHINE TOOL FORECAST

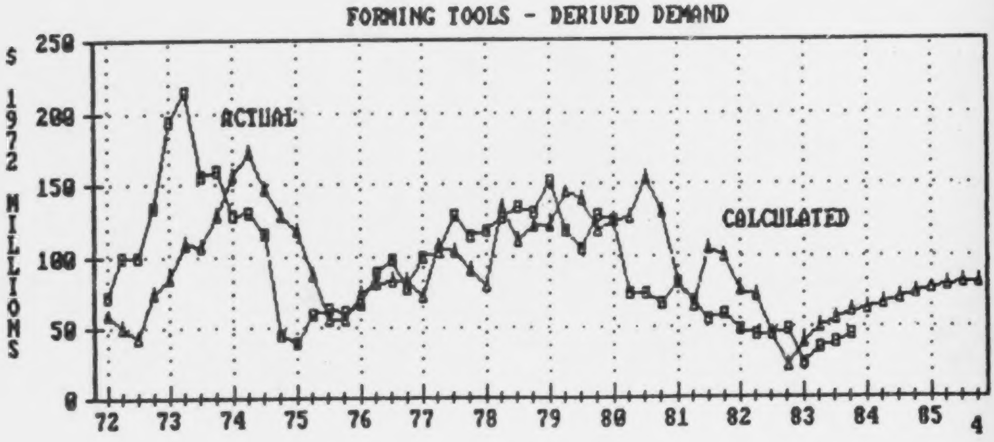
EXPORT NEW ORDERS

CONSTANT 1972 DOLLAR BASIS*
($ Millions)

	CUTTING	% Change Year Ago	FORMING	% Change Year Ago	TOTAL	% Change Year Ago
1982 ANNUAL	57.2	-42.3%	19.1	-42.0%	76.3	-42.2%
1983 Q I	5.9	-68.6%	3.3	-41.2%	9.2	-62.2%
Q II	6.1	-68.1%	4.0	-39.4%	10.1	-60.7%
Q III	5.2	-45.7%	3.7	-7.3%	8.9	-34.4%
Q IV	9.1	-7.9%	5.7	106.3%	14.8	16.9%
ANNUAL	26.2	-54.1%	16.8	-12.3%	43.0	-43.6%
1984 Q I	8.8	50.3%	4.1	22.4%	12.9	40.2%
Q II	9.7	60.0%	4.6	13.3%	14.3	41.3%
Q III	10.8	108.3%	5.2	40.3%	16.0	79.8%
Q IV	11.9	30.7%	5.6	-1.5%	17.5	18.4%
ANNUAL	41.2	57.2%	19.5	16.1%	60.7	41.2%
1985 Q I	12.4	40.5%	6.0	45.7%	18.4	42.1%
Q II	13.7	41.7%	6.4	39.5%	20.1	41.0%
Q III	14.1	30.8%	6.5	23.9%	20.6	28.6%
Q IV	14.8	24.3%	6.6	18.6%	21.4	22.5%
ANNUAL	55.1	33.6%	25.5	30.6%	80.5	32.6%

* Current dollars deflated by Producer Price Index for Machine Tools converted to a 1972 dollar basis.


CUTTING TOOLS - DERIVED DEMAND
$ 1972 MILLIONS
600
500
400
300
200
100
0
ACTUAL
CALCULATED
72
73
74
75
76
77
78
79
80
81
82
83
84
85
4


FORMING TOOLS - DERIVED DEMAND
$ 1972 MILLIONS
250
200
150
100
50
0
ACTUAL
CALCULATED
72
73
74
75
76
77
78
79
80
81
82
83
84
85
4

MACHINE TOOL FORECAST

DOMESTIC CUTTING TOOL DERIVED DEMAND

($ Millions)

CURRENT DOLLAR BASIS	DOMESTIC	IMPORTS	TOTAL DERIVED DEMAND	IMPORTS SHARE
1972	877.3	106.2	983.4	10.8%
1973	1550.4	141.6	1692.0	8.4%
1974	1715.7	202.2	1917.8	10.5%
1975	780.5	211.7	992.2	21.3%
1976	1476.6	271.3	1747.9	15.5%
1977	1980.7	446.0	2426.7	18.4%
1978	2743.2	610.3	3353.5	18.2%
1979	3865.8	822.3	4688.1	17.5%
1980	3495.5	1058.6	4554.1	23.2%
1981	1945.8	1088.4	3034.2	35.9%
1982	890.4	708.1	1598.5	44.3%
1983P	1069.4	812.5	1881.8	43.2%
1984E	1890.2	1303.3	3193.5	40.8%
1985E	2489.1	1766.6	4255.8	41.5%
CONSTANT 1972 DOLLAR BASIS				
1972	876.0	107.8	983.8	11.0%
1973	1477.1	139.8	1616.9	8.6%
1974	1387.2	175.8	1563.0	11.2%
1975	528.0	149.3	677.3	22.0%
1976	925.6	175.0	1100.6	15.9%
1977	1152.6	269.0	1421.6	18.9%
1978	1417.9	333.7	1751.6	19.1%
1979	1748.0	392.9	2140.9	18.4%
1980	1350.1	429.8	1779.9	24.1%
1981	681.7	390.4	1072.1	36.4%
1982	291.2	234.7	525.9	44.6%
1983P	341.3	259.0	600.3	43.1%
1984E	586.0	404.0	990.0	40.8%
1985E	737.0	523.0	1260.0	41.5%

MACHINE TOOL FORECAST

DOMESTIC FORMING TOOL DERIVED DEMAND

($ Millions)

CURRENT DOLLAR BASIS	DOMESTIC	IMPORTS	TOTAL DERIVED DEMAND	IMPORTS SHARE
1972	368.2	36.9	405.1	9.1%
1973	717.2	47.5	764.7	6.2%
1974	469.6	54.3	523.9	10.4%
1975	273.6	63.5	337.1	18.8%
1976	484.9	75.7	560.6	13.5%
1977	729.0	95.9	824.8	11.6%
1978	901.0	158.5	1059.5	15.0%
1979	990.7	206.0	1196.7	17.2%
1980	744.1	178.8	922.9	19.4%
1981	616.9	182.9	799.8	22.9%
1982	371.8	224.5	596.3	37.7%
1983P	488.8	212.3	701.1	30.3%
1984E	705.7	236.3	941.9	25.1%
1985E	873.8	272.3	1146.1	23.8%
CONSTANT 1972 DOLLAR BASIS				
1972	367.7	37.2	404.9	9.2%
1973	677.4	46.5	723.9	6.4%
1974	373.4	47.1	420.5	11.2%
1975	177.6	43.4	221.0	19.6%
1976	284.9	45.9	330.8	13.9%
1977	392.0	54.2	446.2	12.1%
1978	429.2	79.3	508.5	15.6%
1979	414.5	89.7	504.2	17.8%
1980	271.0	67.5	338.5	19.9%
1981	203.9	61.8	265.7	23.3%
1982	115.2	70.8	186.0	38.1%
1983P	148.0	64.0	212.0	30.2%
1984E	206.0	69.0	275.0	25.1%
1985E	243.7	76.0	319.7	23.8%

MACHINE TOOL FORECAST

DOMESTIC CUTTING TOOL DERIVED DEMAND

CURRENT DOLLAR BASIS
($ Millions)

	DOMESTIC	IMPORTS	TOTAL DERIVED DEMAND	IMPORTS SHARE
1983 Q I	205.9	177.3	383.2	46.3%
Q II	250.3	194.6	444.9	43.7%
Q III	305.9	207.4	513.3	40.4%
Q IV	307.3	233.1	540.4	43.1%
ANNUAL	1069.4	812.5	1881.8	43.2%
1984 Q I	406.4	282.6	689.0	41.0%
Q II	454.4	307.2	761.6	40.3%
Q III	505.4	346.7	852.1	40.7%
Q IV	524.0	366.8	890.8	41.2%
ANNUAL	1890.2	1303.3	3193.5	40.8%
1985 Q I	562.7	400.5	963.2	41.6%
Q II	619.8	428.8	1048.6	40.9%
Q III	645.2	458.5	1103.7	41.5%
Q IV	661.4	478.9	1140.3	42.0%
ANNUAL	2489.1	1766.6	4255.8	41.5%

MACHINE TOOL FORECAST

DOMESTIC FORMING TOOL DERIVED DEMAND

CURRENT DOLLAR BASIS
($ Millions)

	DOMESTIC	IMPORTS	TOTAL DERIVED DEMAND	IMPORTS SHARE
1983 Q I	79.7	52.8	132.5	39.9%
Q II	116.4	50.2	166.6	30.1%
Q III	133.6	53.5	187.1	28.6%
Q IV	159.1	55.8	214.9	26.0%
ANNUAL	488.8	212.3	701.1	30.3%
1984 Q I	156.0	57.3	213.3	26.9%
Q II	170.9	56.2	227.0	24.7%
Q III	182.9	59.5	242.4	24.5%
Q IV	195.9	63.3	259.2	24.4%
ANNUAL	705.7	236.3	941.9	25.1%
1985 Q I	204.9	65.8	270.7	24.3%
Q II	215.1	69.6	284.7	24.4%
Q III	223.9	70.0	293.9	23.8%
Q IV	229.8	67.0	296.8	22.6%
ANNUAL	873.8	272.3	1146.1	23.8%

MACHINE TOOL FORECAST

DOMESTIC CUTTING TOOL DERIVED DEMAND

CONSTANT 1972 DOLLAR BASIS*
($ Millions)

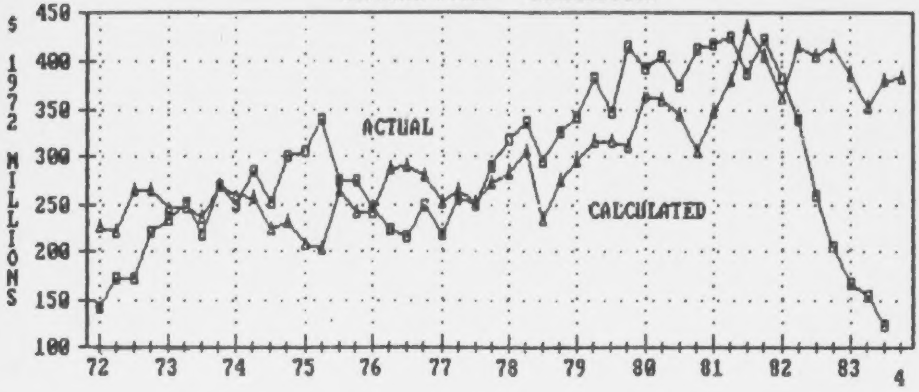
	DOMESTIC	IMPORTS	TOTAL DERIVED DEMAND	IMPORTS SHARE
1983 Q I	66.2	57.0	123.2	46.3%
Q II	79.7	62.0	141.7	43.7%
Q III	97.5	66.0	163.5	40.4%
Q IV	97.9	74.0	171.9	43.0%
ANNUAL	341.3	259.0	600.3	43.1%
1984 Q I	128.0	89.0	217.0	41.0%
Q II	142.0	96.0	238.0	40.3%
Q III	156.0	107.0	263.0	40.7%
Q IV	160.0	112.0	272.0	41.2%
ANNUAL	586.0	404.0	990.0	40.8%
1985 Q I	170.0	121.0	291.0	41.6%
Q II	185.0	128.0	313.0	40.9%
Q III	190.0	135.0	325.0	41.5%
Q IV	192.0	139.0	331.0	42.0%
ANNUAL	737.0	523.0	1260.0	41.5%

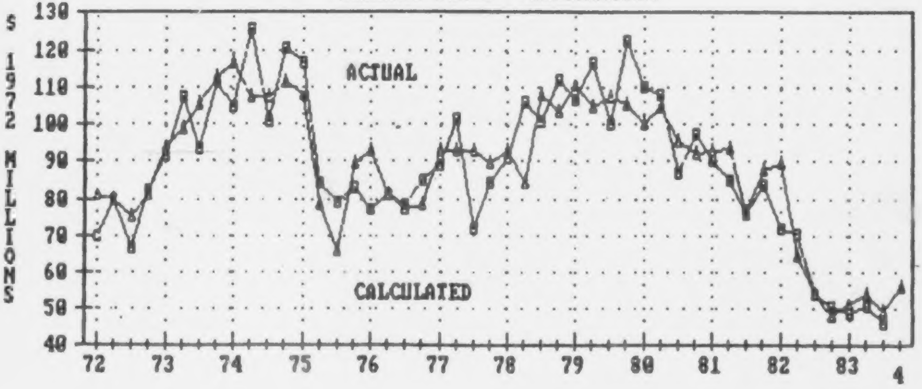
·MACHINE TOOL FORECAST

DOMESTIC FORMING TOOL DERIVED DEMAND

CONSTANT 1972 DOLLAR BASIS*
($ Millions)

	DOMESTIC	IMPORTS	TOTAL DERIVED DEMAND	IMPORTS SHARE
1983 Q I	24.1	16.0	40.1	39.9%
Q II	35.3	15.2	50.5	30.1%
Q III	40.5	16.1	56.6	28.5%
Q IV	48.2	16.7	64.9	25.7%
ANNUAL	148.0	64.0	212.0	30.2%
1984 Q I	46.3	17.0	63.3	26.9%
Q II	50.2	16.5	66.7	24.7%
Q III	53.2	17.3	70.5	24.5%
Q IV	56.3	18.2	74.5	24.4%
ANNUAL	206.0	69.0	275.0	25.1%
1985 Q I	58.2	18.7	76.9	24.3%
Q II	60.6	19.6	80.2	24.4%
Q III	62.1	19.4	81.5	23.8%
Q IV	62.8	18.3	81.1	22.6%
ANNUAL	243.7	76.0	319.7	23.8%


CUTTING TOOLS - CONSUMPTION


FORMING TOOLS - CONSUMPTION

APPENDIX A

U.S. INTERNATIONAL TRADE COMMISSION INVESTIGATION ON ROBOTICS

Preface

On February 23, 1983, on its own motion under section 332(b) of the Tariff Act of 1930 (19 U.S.C. 1332(b)), the U.S. International Trade Commission instituted investigation No. 332-155 to assess the competitive position of U.S. producers of robotics in domestic and foreign markets. The study was to assess the impact of growing competition in the industry and explore the related developments most likely to affect the future market position of the U.S. industry. Notice of the investigation was given by posting copies of the notice of investigation at the Office of the Secretary, U.S. International Trade Commission, Washington, D.C., and by publication of the notice in the Federal Register (48 F.R. 9971, Mar. 9, 1983) (app. A).

The study limits the coverage of robots to industrial devices excluding manual manipulators and fixed-sequence machines, which are classified as robots in Japan and certain other countries, but not in the United States. The report covers the period 1979-83, with producers, purchasers, and importers providing estimates of their operations for July-December 1983.

In the course of this investigation, the Commission collected data from questionnaires sent to 30 producers, 15 importers, and 80 purchasers of robotics. Responses were received from 21 producers, 13 importers, and 51 purchasers. Responses received from the 21 producers represent more than 90 percent of the value of U.S. shipments, and those received from the 13 importers account for virtually all U.S. imports. Responses received from the 51 purchasers account for a large cross section of user industries, including 78 divisions of the largest U.S. automotive producer. Information was also collected in testimony presented at the public hearing on September 7, 1983, and from public and private sources, and in interviews with corporate executives representing purchasers, producers, and importers (app. B). Information on major foreign industries was supplied by the U.S. Department of State.

Executive Summary

Robotics, along with other forms of automation, are being applied in manufacturing industries worldwide. The application of robotics reduces the labor content of products produced and increases the relative productivity of the countries employing them. The rate at which robots are being produced and installed, however, varies considerably from country to country. At present, Japan leads all countries in the application of robotics, including the United States, where the technology was developed. In 1982, about 50,000 robots were in operation worldwide excluding those in operation in Communist countries. Of these robots, 64 percent were in operation in Japan, compared with 14 percent in the United States and 7 percent in West Germany. The major findings of this study are summarized below.

1. Structure of the domestic and foreign industries.

   o About 50 firms produce robots in the United States.

In 1982, robots were produced by about 50 U.S. firms, with 6 firms together accounting for about 80 percent of U.S. shipments. Of these six firms, three are divisions of large, end-product producers, one is a joint venture of the largest U.S. automotive producer, and one is a subsidiary of a foreign electrical-equipment producer. The remaining firm is an independent producer of robots.

   o U.S. producers' shipments increased during 1979-83 although shipments to domestic markets accounted for a decreasing share.

U.S. producers' shipments of robots increased from $28 million in 1979 to $143 million in 1982, and are expected to reach $169 million in 1983. 1/ Shipments to domestic markets were valued at $19 million in 1979, increasing to $123 million in 1982. In 1983, shipments to domestic markets are expected to reach $135 million, and account for 80 percent of total shipments. Shipments to the domestic market accounted for 86 percent of total shipments in 1982.

The reduced growth of domestic shipments was caused largely by economic consequences of the recent U.S. recession. Heavy losses in the automotive industry and low capacity utilization rates in manufacturing industries, the major users of robotics, resulted in severe curtailment of funds available for capital equipment. The curtailment of funds is reflected by a 42-percent decline since 1981 in shipments of spot-welding robots, used largely in the automotive industry.

1/ Estimates of producers' shipments for July-December 1983 were provided by U.S. producers.

- Employment increased in the industry during 1979-83.

Employment in the robotics industry increased from 716 persons in 1979 to 1,934 persons in 1982, and is expected to reach 2,251 persons in 1983. Engineers, administrators, and other professional personnel together accounted for the majority of workers employed during the period, increasing from 47 percent of total employment in 1979 to 57 percent in 1983.

- Industry production capacity increased during 1979-83, but was underutilized.

The capacity of U.S. producers' plants increased from 1,264 robots in 1979 to 6,827 robots in 1983. During the period, capacity utilization of these plants peaked at 55 percent of maximum effective capacity in 1981, and declined to 48 percent in 1983. Producers' capacity was expanded during the period in anticipation of a large increase in demand which never materialized. New producers entered the industry in 1983 with added capacity, exacerbating this condition.

- The robotics industry is research intensive, reflecting the importance of technology to U.S. producers.

Expenditures by U.S. producers for research and development (R. & D.) are expected to reach $30 million in 1983, compared with $6 million in 1979. During the period, R. & D. expenditures as a share of producers' shipments increased steadily, reaching 19 percent of shipments in 1983. Funds to support R. & D. were largely provided by the robot producers, although a few producers reported that funds for R. & D. were received from venture capitalists. Funds provided directly by the U.S. Government to robot producers for R. & D. were largely nonexistent. Indirectly, the industry benefits from R. & D. funded by the Department of Defense (DOD) covering projects such as sensor technology and artificial intelligence. In 1982, about $27 million was provided by the DOD to support such projects, and about $44 million is expected to be provided in 1983.

- Large losses were incurred in the robotics industry during 1979-83.

U.S. producers reported that the median return in the industry decreased from 23 percent of net sales in 1979 to a loss of 9 percent in 1981, and then increased to a loss of 42 percent in 1982. Losses are expected to reach 49 percent of sales in 1983. The accelerated losses in 1982 and 1983 are related to a crowding effect caused by new entrants coming into the market and by increased R. & D. expenditures by robot producers. The new firms entering the market are often producers with low sales volumes and high product development costs. Losses were not limited to small producers, but were spread across the industry to include established producers as well.

- The majority of world producers of robots, including most U.S. producers, are linked through various agreements.

The majority of U.S. producers of robots, including all major producers, are connected with the major foreign robot firms through various agreements covering joint ventures, marketing, distribution, and technology transfer. An increasing number of such agreements cover manufacturing or resale arrangements with U.S. end-product producers attempting to establish a market presence. Through these agreements, the dispersion of technology between producing countries has been accelerated, and the need for research and development by new firms entering the industry has been reduced. Numerous foreign firms are also connected through similar agreements with each other. Most of these firms are located in Japan, West Germany, Norway and Sweden. Royalties received by U.S. producers from foreign sources during 1979-83 far exceeded royalties paid.

- More robots are installed in Japan than in all other countries combined.

About 31,900 robots were installed in Japan through 1982, representing an increase of 22,000 robots installed since 1978. The number of robots installed in Japan accounts for about 64 percent of the robots installed worldwide and is more than four times that installed in the United States and 7 times that of West Germany. The spread of robotics in Japan is related to an increasing demand within manufacturing firms, coupled with alleged Government assistance to producers and users of robots. The major type of Government assistance was the organization of a leasing company which provides Japanese producers with a ready market for robots and encourages the use of robots. Interest-free loans are also provided to members of the robot association to test market robots, engage in market research, and translate foreign documents. Users are also provided with accelerated depreciation allowances to encourage the purchase of robots. About 250 firms produce robots in Japan, many of which are large users.

2. The current U.S. market.

- Apparent U.S. consumption of robots increased during 1979-83.

Apparent U.S. consumption of robots increased from $23 million in 1979 to $138 million in 1982. Apparent consumption is expected to reach $164 million in 1983, representing the smallest increase in consumption since 1979, and reflecting the current recessionary effects on user industries. U.S. imports decreased from 16 percent of apparent consumption in 1979 to 11 percent in 1982, but are expected to increase to 18 percent in 1983.

- The largest users of robotics are the automotive industry and industries producing appliances, electrical machinery, and aircraft.

The automotive industry is the largest U.S. user of robotics, accounting for 50 to 60 percent of the robots installed domestically. Principal applications in the automotive industry are in welding, painting, and material handling. Principal applications in appliance, aircraft, and other user

Foreign Industries

The principal foreign producers of robots (other than Communist countries) are Japan, West Germany, and Sweden. Each of these countries has large motor-vehicle production facilities in which robots are installed. France, the United Kingdom, and Italy, with extensive motor-vehicle facilities, are also sizable robot producers. Other countries, except Norway, are small producers of robots or are in the process of developing robots. Norway is noted for its technology in a specific line of robots. A discussion of the principal foreign producers follows.

Japan

On the basis of the broad Japanese definition, the number of robot producers in Japan is estimated at 250 firms, with 80 firms producing robots only for internal consumption. Many of these firms are small enterprises with capital of less than $500,000. The number of firms which produce industrial robots is not known; however, data indicate that the Japanese industry is composed of small firms producing conventional robots (manual manipulators and fixed-sequence devices) and large firms producing sophisticated industrial robots. 1/ An indication of the major robot producers is the membership of the robot association in Japan which lists 55 firms as members.

In 1982, the largest robot producer in Japan was the country's leading producer of consumer electronic products, with estimated sales of $54 million, and accounted for about 9 percent of total Japanese shipments. The 10 largest producers had combined shipments of $254 million and accounted for 42 percent of the Japanese sales. It is believed that, unlike in previous years, up to

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1/ U.S. Department of State telegram, Aug. 5, 1983, p. 3.

Table 3.--World robot population, 1978-82 1/

(In Units)

Country	1978	1979	1980	1981	1982
Japan	10,095	11,533	14,246	21,684	31,900
United States	2,831	3,340	3,849	4,700	7,232
West Germany	450	2/	823	2,301	3,500
Sweden	800	2/	1,133	1,700	2/
France	2/	2/	200	620	993
United Kingdom	125	2/	371	713	977
Belgium	2/	2/	2/	44	305
Canada	2/	2/	2/	214	273
Italy	2/	2/	400	450	600
Finland	2/	2/	40	2/	75
Austria	2/	2/	2/	2/	70
Norway	2/	2/	2/	2/	20
Switzerland	2/	2/	2/	2/	200
Taiwan	2/	2/	2/	2/	11
All other	2/	2/	2/	2/	3/ 2,000
Total 2/	16,000	19,000	24,000	35,000	50,000

1/ Excluding Communist countries.
2/ Information or estimates are not available.
3/ Estimated by the staff of the U.S. International Trade Commission.

Source: Japan Industrial Robot Association, responses from questionnaires of the U.S. International Trade Commission, and Paul.H. Aron, The Robot Scene in Japan: An Update, Sept. 7, 1983.

1/ Paul Aron, op. cit., p. 42.
2/ Ibid.
3/ Ibid, pp. 23-27.

World Consumption of Robotics

The number of robots in operation worldwide (excluding Communist countries) increased from 16,000 in 1978 to 50,000 in 1982. During the period, Japan accounted for a large share of robots in operation, with the number installed in Japan increasing from more than 10,000 to almost 32,000. The number of operational robots in Japan does not include manual manipulators and fixed-sequence devices, which are not considered robots using the U.S. definition. Compared with installations in Japan, the number in the United States lags far behind; less than 2,900 robots were installed in 1978 and less than 7,300 were installed in 1982. West Germany lags even further behind, with an installed base of 3,500 robots in 1982, having increased from 450 in 1978, as shown in table 3.

The number of robots installed in Japan is related largely to the structure of the industry and the country's extensive facilities for the production of motor vehicles. The major robot producers in Japan are the large electrical and electronic equipment firms which produced robots for installation in their manufacturing operations. Since 1980, the electrical and electronic industries have provided the largest market for robots, accounting for 30 percent of the robots in operation in 1982. 1/ When combined with the automotive industry, together they accounted for 57 percent of the robots in operation. 2/

The growth of robotics in Japan has also been encouraged by the Japanese Government. The encouragement has allegedly come through the establishment of a Japanese company which provides preferential leasing rates to user firms, through funds provided for research and development, and allowances provided for accelerated depreciation. 3/ These encouragements are discussed further in the "Foreign Industries" section of this report.

80 percent of Japanese robot shipments in 1982 shown in the tabulation below were devices classified as robots in the United States: 1/

Producer	Shipments 1/ Value (1,000 dollars)	Percent of total
Matsushita Electric-----------	54,167	9.0
Hitachi-----------------------	33,333	5.6
Kawasaki Heavy Industries-----	31,250	5.2
Yaskawa Electric--------------	27,917	4.7
Fanuc-------------------------	25,000	4.2
Mitsubishi Electric-----------	23,983	4.0
Dainichi Kiko-----------------	19,167	3.2
Komatsu-----------------------	16,667	2.8
Star Seiki--------------------	13,333	2.2
Kobe Steel--------------------	9,583	1.5
All other---------------------	345,058	57.6
Total---------------------	599,458	100.0

1/ Exchange rate of 240 yen per dollar.

Robots found their way into Japan reportedly as the result of licensee agreements, joint ventures, and, in the beginning, technology transfer by a U.S. firm. The U.S. firm introduced the first industrial robot into Japan in 1967, and later that year, the robot was installed in a Toyota Automobile Group plant. 2/ In 1967, Japanese firms also approached the leading U.S. producer of robotics with proposals for a joint venture whereby the U.S. firm's technical know-how would be shared with these Japanese firms. Ultimately, Japan's third largest producer was selected from the group, and the U.S. producer entered into an agreement with that firm. 3/ Through the agreement, the Japanese producer was able to obtain the rights to the U.S. firm's patents and processes. A renewal of this original agreement is still in effect. 4/ In 1973, the 10th largest producer in Japan entered into an agreement with a producer in Norway for paint-spraying technology, and a Japanese trading company reached an agreement with a U.S. producer of appliances. Robot technology was also imported into Japan from two firms in Sweden. Today, numerous agreements exist between Japanese and foreign robot producers, although the technology is now beginning to originate in Japan.

Robots were largely developed and utilized in Japan within the robot-producing firms. By installing the robot within the firm, the producer not only gained valuable knowledge in the operation of the robot, but also was in a position to demonstrate to a potential customer how the robot performed

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1/ Paul H. Aron, The Robot Scene in Japan: An Update, Sept. 7, 1983, p. 49-52.

2/ Dr. Robert U. Ayres, Leonard Lynn, and Steve Miller, "Technology Transfer in Robotics between the U.S. & Japan," U.S. Japan Technological Exchange Symposium, October 1981, p. 92.

3/ Ibid.

4/ Ibid.

in an actual working environment. 1/ This apparently proved to be a valuable marketing tool for Japanese robot producers, which became totally familiar with how robots behave and what their deficiences were. Confidence, which was built up over time, permitted Japanese firms to be more competitive in foreign markets once their own requirements were satisfied.

The Japanese Government has been active in developing and supporting robotics since the first U.S.-produced robot was introduced. 2/ The support is related to the close cooperation between members of the robot association, the Japan Robot Leasing Co. (JAROL), and the coordination of the research and development conducted by leading research institutes (along with research conducted within producer firms). All of this has come about with the encouragement of the Ministry of International Trade and Industry (MITI). 3/

In 1978, the Japanese Government designated robots as products for experimental promotion and rationalization; shortly thereafter, robots were clearly defined under Japanese Industrial Standards. Following these decisions, the Government of Japan undertook a number of steps to increase the development of robotics and to promote the diffusion of these devices throughout Japanese industries. The major undertaking by the Government was the organization of JAROL, which was established in 1980, reportedly under the guidance of the MITI. 4/ JAROL was organized as a joint venture between 24 Japanese producers of robots, 10 insurance companies, and 7 firms engaged in general leasing. About 60 percent of JAROL's operational funds were provided at preferential rates by the Japanese Development Bank. The remainder of the funds were provided by the Long-Term Credit Bank, city banks, and the Industrial Bank of Japan. The creation of JAROL provided Japanese producers with a ready market for their robots, thus relieving them of the costs associated with inventory and marketing and accelerating the return of their manufacturing capital. JAROL, in turn, encouraged the use of robots by leasing them to user firms at preferential leasing rates. In 1981, JAROL entered into user leases for 435 devices, valued at $14 million, and in 1982, into leases on an estimated 790 devices, valued at $26 million.

In addition to leasing, the MITI has provided for accelerated depreciation allowances on robots purchased by Japanese users, allowing an additional 13 percent of the purchase price to be written off the first year during 1980-82 and 10 percent during 1983-85. 5/ The liberal definition applied to robots in Japan permits users to qualify for accelerated depreciation on a wide range of mechanical devices called "robots." The robot association, in close cooperation with the MITI, provides interest-free loans to member producers to test market robots. The Japanese Government also provides subsidies to Japanese producers to enable them to develop new robot applications. The Japanese Government provides subsidies to the association

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1/ Hearings Before the Subcommittee on Investigations and Oversight of the Committee on Science and Technology, U.S. House of Representatives, June 2, 23, 1983, p. 5.

2/ Ibid.

3/ Paul Aron, Robotics in Japan: Past, Present, Future, Mar. 2, 1982, p. 13.

4/ Ibid.

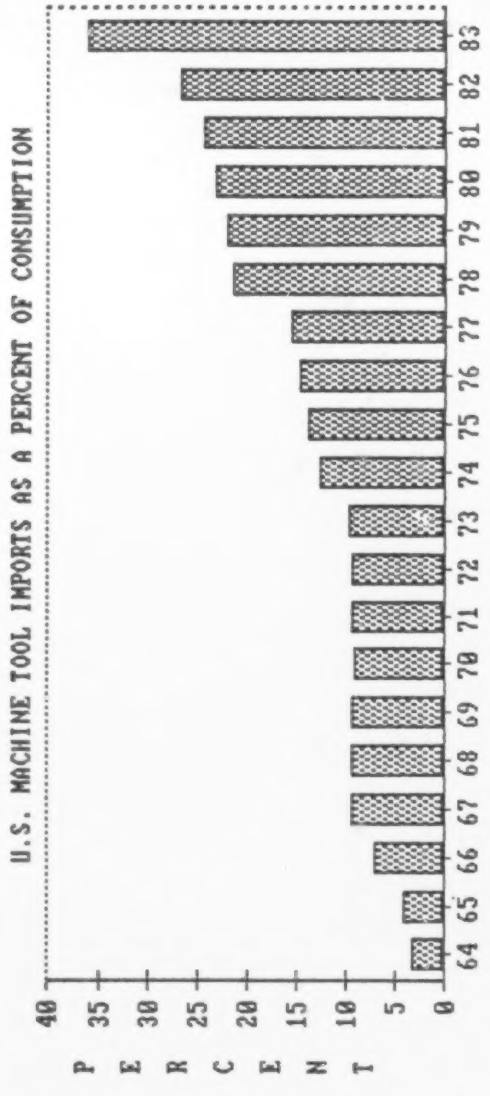
5/ U.S. Department of State airgram, Aug. 5, 1983, p. 8.

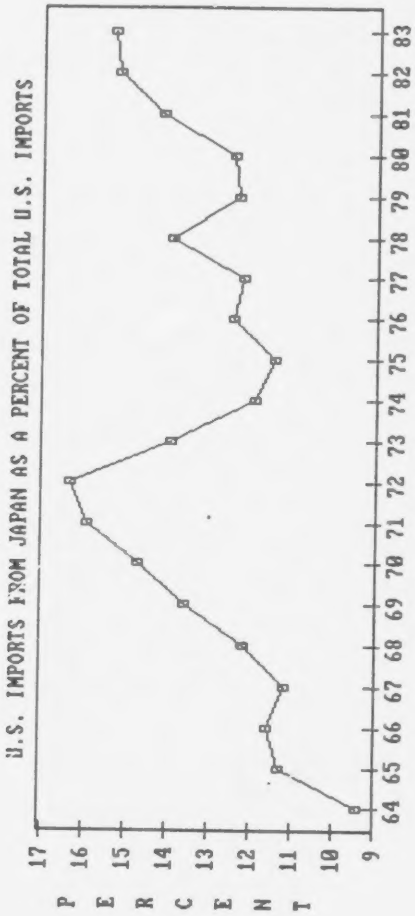
to cover the costs of translating foreign documents and technical articles on robotics. The MITI and the association together compile detailed statistical data on the Japanese robotics industry and on users of robotics, and engage in extensive market research, largely financed by the Government.

Research in robotics in Japan is carried out in universities, research institutes, and private firms much like in the United States. In 1982, university and public research institutions in Japan totaled 153, compared with 79 in 1979. In 1979, about $1.5 million (304.6 million yen) was spent on robotics research by these institutions, although this sum did not cover the salaries of the 350 researchers employed. In 1983, about $4.0 million (963.3 million yen) were spent by these institutions. Most of the research in Japan on robotics, however, is carried out in the laboratories of producer firms. In 1982, the Government of Japan accelerated research in robotics by establishing a 7-year national program to improve the sensor perception, language systems, and motion capability of advanced devices. About 30 billion yen were budgeted for the project, or about $18 million annually.

APPENDIX B

SUPPORTING GRAPHS AND TABLES




U.S. IMPORTS FROM JAPAN AS A PERCENT OF TOTAL U.S. IMPORTS
PERCENT
17
16
15
14
13
12
11
10
9
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
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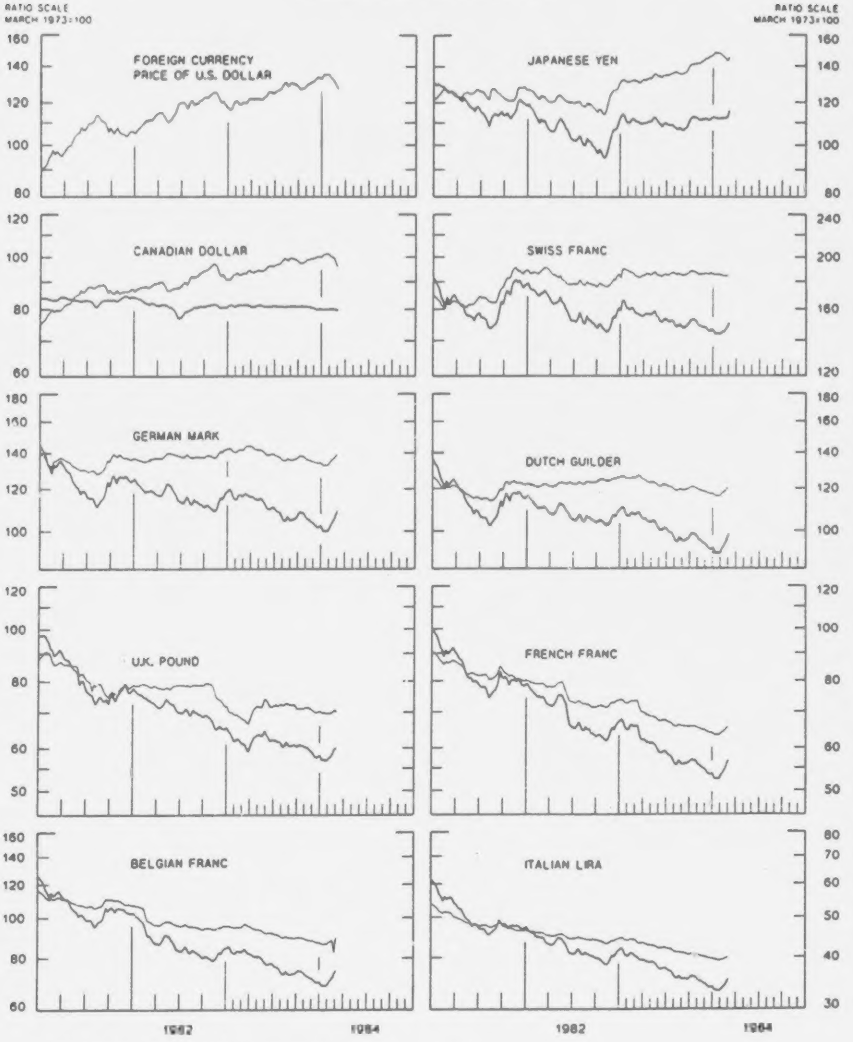
82
83

SPOT EXCHANGE INDICES

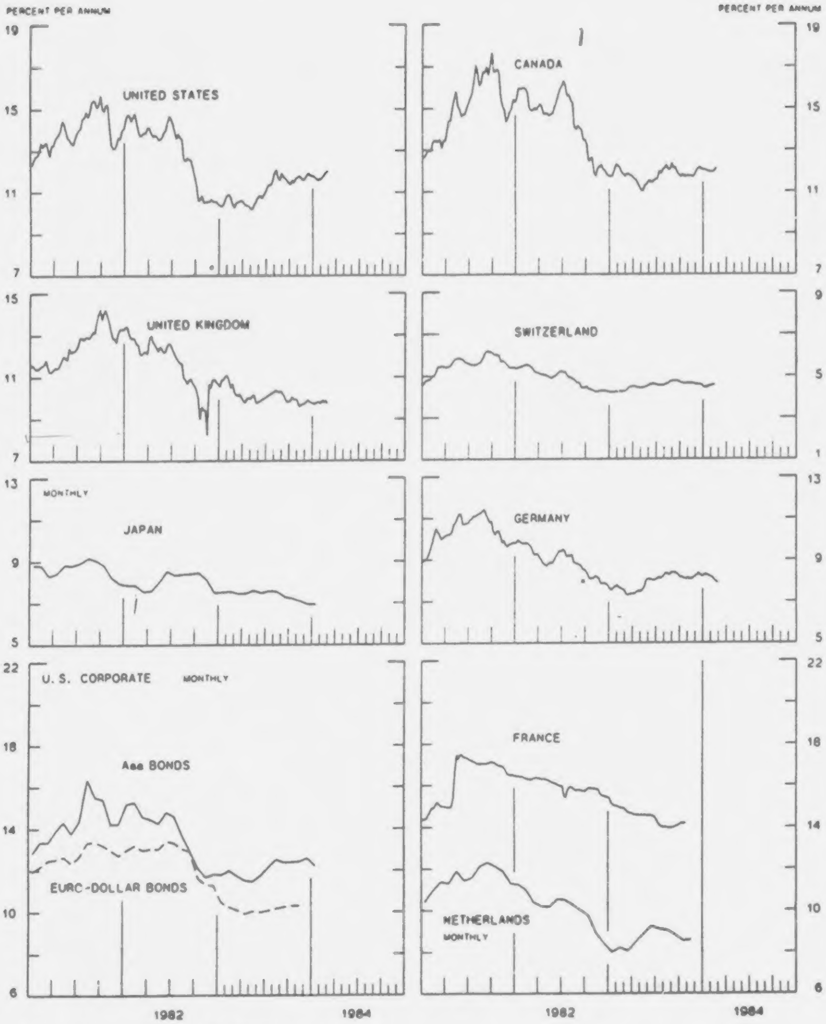
DOLLAR PRICES OF FOREIGN CURRENCIES AND WEIGHTED AVERAGE VALUES (THIN LINE)
AVERAGES FOR WEEK ENDING WEDNESDAY



Source: Federal Reserve Board.

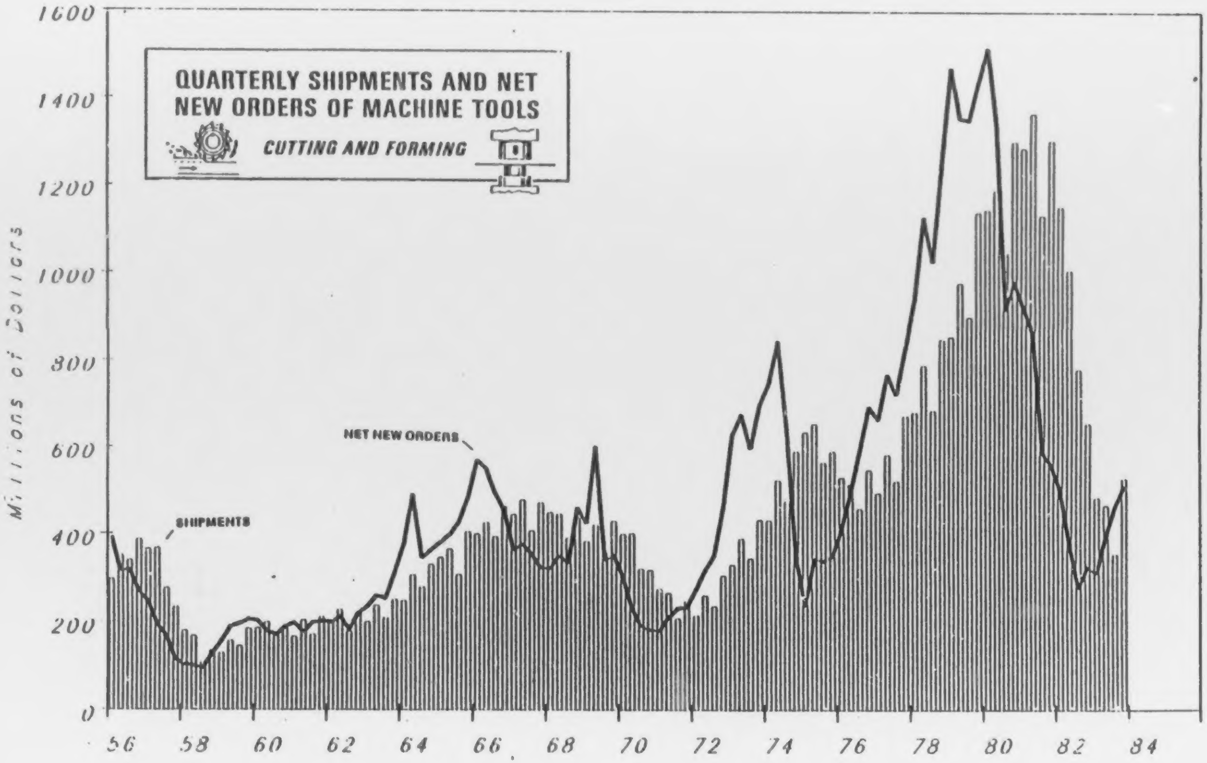
LONG-TERM GOVERNMENT BOND YIELDS

WEEKLY SERIES



Source: Federal Reserve Board.

Total Machine Tool
Shipments (Bar) and Net New Orders (Line)
Quarterly, 1956:1 to 1983:4



Business and the Law

Tamar Lewin

International Antitrust Test

THERE have been plenty of cases recently in which foreign countries have felt the United States was overstepping its bounds in trying to impose its own rules abroad. But now, in a closely watched European antitrust case against the International Business Machines Corporation, the tables have turned.

While American antitrust policy has been in a period of retrenchment for the last few years, the European Economic Community has been moving steadily ahead — and its vigilance is not good news for American companies that do business in Europe.

"They're becoming more aggressive while we're becoming less aggressive, so we're in for a period of contrasting laws and probably confrontations," said Stanley J. Marcuss, a Washington lawyer.

• • •

"It used to be that the E.E.C. was busy just creating a unified market," said Thomas Sharpe, a British lawyer who is counsel at a large Los Angeles firm. "They had to concentrate on treaties to break down tariffs and quotas so the idea of the economic community could work. Now we have a unified market, and the next step is an increasing sophistication in dealing with multinationals and international cartels."

Mr. Sharpe believes that American companies are particularly vulnerable to a Common Market antitrust investigation since they cannot muster the kind of lobbying pressure a member nation of the market can bring to bear.

Not everyone agrees with Mr. Sharpe's assessment. James Rahl, a law professor at Northwestern University who is familiar with the Common Market's antitrust policy, says it is no more aggressive now than it was 10 years ago. He also says there is no evidence that American companies are being held to different standards than Common Market companies.

Charles Waller

James Atwood, a Washington lawyer, says the evidence is in the numbers. "When you look at E.E.C. cases on abuse of dominant market position, you find a surprising number of American defendants," Mr. Atwood said. "It can't help but make you wonder. When the E.E.C. Commission feels like expanding the law, it's always on an American company."

• • •

Currently I.B.M. is the target of what many American lawyers see as a Common Market attempt to cut into the company's ability to compete worldwide. The market, which began investigating I.B.M. in 1974, has charged that the company made it possible for European customers to use other companies' software with I.B.M. computers but refused to supply software for use with non-I.B.M. computers.

The Common Market has charged that I.B.M. exploits its dominance of the European computer market to stifle competition — a charge originally brought by the European subsidiaries of two American companies, Amdahl and Memorex. The market wants to compel I.B.M. to disclose the specifications of its new computer equipment in time to allow other computer companies to put out products that can be used with the new I.B.M. machines or to compete with them.

William F. Baxter, former head of the Justice Department's antitrust division, which two years ago dropped its own antitrust suit against I.B.M., has argued on the company's behalf that such early disclosure in Europe would ultimately mean disclosure worldwide and would have the effect of helping the Japanese and hurting American technology.

I.B.M. is now negotiating with the Common Market over a possible settlement, and some resolution is expected soon — although it is thought unlikely that the market will drop its quest for advance disclosure.

• • •

Legally, the idea of a foreign power requiring an American parent company to disclose something that American law would not require is a troubling one. This is not because antitrust officials may not consider actions taken outside their country. Indeed, many enforcement actions are prompted by foreign pricing or marketing decisions. The remedy in such cases, however, would not be to regulate the foreign company but rather to regulate that company's use of the United States market.

Thus, if a Japanese company gets Government subsidies that allow it to export low-priced products that undercut American manufacturers, United States antitrust officials could probably keep the products from being sold in this country at an unreasonably low price. By the normal rules of international law, however, they could neither force the Japanese Government to stop offering subsidies nor force the company to stop taking them.

In the I.B.M. case, many antitrust experts feel, the Common Market is overstepping its jurisdiction by trying to force the American parent company to disclose its production plans.

"It seems to me that they're going beyond their legitimate role in promoting competition in the European market," one antitrust expert said. "In effect, they're asking I.B.M. to give away the proprietary information the Japanese couldn't steal. I can see why I.B.M. doesn't like it, and in terms of precedent-setting I think it would be dangerous."

Mr. **Luken**. Thank you very much for your incisive testimony. One comment I would make at this time is that I picked out of your statement the comment that the free market is being stacked against small machine tool manufacturers. That fits in precisely with the mission of this subcommittee, as handed down to us by the Congress. So I think that frames the discussion that we will be going into. So I will call upon the other members first. The gentleman from Texas, Mr. Gonzalez.

Mr. **Gonzalez**. Thank you, Mr. Chairman. Thank you, Mr. Copeland.

I have been particularly interested from a larger perspective, so to speak. I have been speaking out on this subject matter since I came up here the first year, 22 years ago, anticipating what unfortunately has turned out to be true.

Your testimony parallels the farm area spokesmen, the same thing. I have listened to their special orders this week. Last week I listened to the Steel Caucus, that has maintained a continuing dialog on this as a peripheral issue. I think the most significant thing which should be obvious to our national policymakers goes back to 1962, the first GATT agreement, the amendments to the Tariff Act of 1930 and the like, the failure to realize what was emerging as a new world.

And in many, many other areas of our policymaking our leadership still has a mindset of a Europe and a Japan of 1946, 1947, and so it has been very difficult to penetrate the level of consciousness of our leaders in the Congress or in the executive branch of the Government.

There is a tremendous interrelationship, for example, between the machine tool and the steel industry, is there not?

Mr. **Copeland**. Yes.

Mr. **Gonzalez**. Well, the basic policies which, as I say, fundamentally haven't even been discussed, I think are at the heart of the dilemma, nationwide, in all our sectors, the rural sector, the farm sector, the agricultural production sector, as well as our machine tool heavy industry sector, I think are directly related to the fact that the age-old struggle from the very beginning of our Nation, that is, the allocation of credit.

What happens after a trauma such as a war. We have not cared to look at history after World War I. The identical same thing happened. The same format, same thing, and except that today it's a little bit more intricate because of the contraction of the world and the interdependence.

For instance, last December, United States Steel closed its activities and threw out about 15 employees at Homestead, PA. The head of the corporation stated that they expected 20-percent profit. We are only getting a little less. The Japanese come in and they thrive on 6 percent. At the same time they were closing the plant and throwing out these workers, and there are about 200,000 steelworkers unemployed, this same company was merging, acquiring an oil company, with very tremendous heavy investment of credit allocation, banking resources that are tied up.

Do you think that until that is addressed there will be any real—besides the fact that we do have to realize what you said, and that is, that you have a stacked deck with respect to the so-called free-trade framework of reference today. Besides that, the fundamental question, don't you believe that that is, until we address that, that would be through the reforms in our financial structure, the Federal Reserve System, for example, which is determining our credit allocations?

Mr. Copeland. I am not so sure that we need to reallocate credit or we need to basically change the Federal Reserve System or the credit mortgage mechanism that we have over here. I think it may be closer to attune that we need people who are in our marketplace to play by the same rules that we do.

I remember a couple of years ago, I had occasion to spend 3 weeks in Europe and come home for about a week and then spend 3 weeks in the Orient, and two lasting impressions from that worldwide trip around the world: One, most foreign manufacturers view the world market as twofold, half is the markets in the United States and half is the rest of the world markets spread throughout the remainder of the world.

Second, a typical foreign manufacturer says the U.S. market is so big, so vast, so affluent, that I certainly can sell another 100 bicycles, another ton of this product, another machine tool in there without causing a major political ripple.

I think that in our system over here that we have been so sensitive to maintaining the free enterprise system that we have bent over backward for foreign suppliers to allow them a great deal of leeway when we have no real conception of just how they develop the might that they do, and in many ways I think when you talk to foreign manufacturers you have a sense that we in this country have been very fortunate over the past 100 or 200 years to develop a sophisticated entrepreneurial kind of system and they, for whatever reasons, haven't had the benefits of this.

So they think it is perfectly all right for their government and the eight largest companies or the four largest companies, whatever the political system or whatever the industrial sector may be, to marshal their forces together to compete against General Motors or IBM or Wang and somehow eventually they will undercut, if we allow them to continue to target, whether it's computers or machine tools or optics, different sectors, they will eventually only leave a very few American firms as viable in this country and worldwide. And they are not operating with the same ground rules we are.

I don't think our ground rules for credit allocation or competitive environment need to be redressed; I think we have to basically look at how the people coming into our market are playing our game, because I don't think they are playing by the same competitive rules that you and I are accustomed to.

Mr. Gonzalez. Some of those countries consider this like a war, an economic war?

Mr. Copeland. They certainly do.

Mr. Gonzalez. There is no question of that. I used to be chairman of the Subcommittee on International Finance. Back in the seventies, when the first manifestations actually occurred, though they should have been foreseen since 1968, I had a Japanese correspondent talk to me, and he admitted, he said, "We look upon this as war by other means."

In other words, they are in a conflict. You yourself stated a while ago, coming back to credit allocation, that there is no way that under the present conditions the machine tool industry, for example, could compete with foreign financing. You know it is that credit, credit in the First World War, that America gave. America was the only country that went into World War I as a creditor nation.

The same thing in World War II. It was credit that won the war. The war couldn't have lasted four months if it hadn't been for the American allocation of credit, outpouring. What I am saying is that there is no way, unless you do have not only production and consumption markets targeted, you have to have financial credit allocation targeting. You have got to have some priority on the national basis, and this is not being determined by the industry, it is being determined by the very same international forces that allocate in their structure world what country—America—its peculiar to me we have reverted to the merchantile system, Europe once again is producing, we are consuming.

One of the reasons for the American Revolution was we couldn't manufacture our own raw products, we had to buy them from England, even though it would have been cheaper to manufacture them here, because we had the raw source. That was one of the big reasons. We are back, the cycle has come back. We are on the merchantile system, so to speak.

Mr. **COPELAND**. One of the interesting things, you keep coming back and talking about credit allocation, but in Japan the Japanese Government has run deficits which on a per capita basis are six times ours, and they have been able to do that because they borrow from the Japanese postal system, which is a national IRA-type thing. They have about reached the end of the rope on that.

I think that in the next 10 years Japan will not have the financial might to continue doing what they have been doing in the last 10 years, but in the process I guess one of the things that we have seen happen—and we have worked with a Japanese company over here called Olympus—the Japanese are not any smarter than we are, technologically; they are not any smarter than we are marketingwise——

Mr. **GONZALEZ**. Never have been.

Mr. **COPELAND**. The Japanese Government has been able to marshal economic and financial forces to support industry.

Mr. **GONZALEZ**. That is right.

Mr. **COPELAND**. It may be at some point in time we, through accelerated depreciation or investment tax credit, have to do the same thing. I don't think we have to restructure the Federal Reserve or our financial institutions. I think we have to give more consideration to technology-sensitive areas like machine tools.

Mr. **GONZALEZ**. Well, thank you very much. I really don't want to hog the time. We have Mr. Hayes here.

Mr. **LUKEN**. He had to go to the funeral but it was very nice of him to come by.

All right, the gentleman's time has expired. The gentleman from California.

Mr. **CHAPPIE**. No questions.

Mr. **LUKEN**. Mr. Chappie doesn't have any questions.

I would like to continue just a little bit. The thrust of what you are saying is, Mr. Copeland, very importantly, that in this time of expansion, as we are coming out of the recession, of capital acquisition generally, in this country, I suppose worldwide, this is occurring, isn't it?

Mr. **Copeland**. It's a lot cheaper to buy an existing operation than to develop a new, green, field installation.

Mr. **Luken**. As affecting this, as we are focusing on the machine tool industry, since the machine tool industry involves machines that last a long time, it's a very long-term proposition, as you have described this situation. This situation, therefore, is going to get worse, predictably, rather than get better, because we are in the throes of a recession right now, the comparable progression or expansion in Japanese and other imports as opposed to domestic right now is in its worst aspect. Since now is the time for expansion, we can look forward to this being a long-term proposition?

Mr. **Copeland**. Unless there is something that happens in the short term, the economic upturn will not benefit the machine tool industry and they will not be in position to repair their liquidity or their financial posture. And no expansion goes on forever, so unless they are able to do much better in the next 2 or 3 years than they have in the past 2 or 3 years, we will really be a nation in a dire situation come 1986, 1987, or 1988, whenever the timeframe may be.

Mr. **Luken**. Do you have any comment on this aspect of it, the industrial base? You have described the machine-tool industry as a core industry and as an integral part of our manufacturing base; no one can deny that, right?

Therefore, is it obvious that this would be perhaps the most important base of our industrial power or our industrial sinews, if we look forward to any kind of mobilization effort, all-out mobilization?

Mr. **Copeland**. I think it is one of the most important. I think information technology is probably—if you had to set up a list of priorities, information-type technology is probably the No. 1; machine tools would be a very close second.

Mr. **Luken**. We are not just talking about technology, though, are we; we are talking about the actual operations, the ongoing production of machines and the ability to produce a number of machines by having the base in place?

Mr. **Copeland**. In place?

Mr. **Luken**. If we needed an immediate widespread mobilization, a world war or sudden crisis threatening possible world war, we are not going to be able to get into the surge of production if we don't have the base there?

Mr. **Copeland**. This would be a major handicap to us in any defense posture at this point in time right now.

Mr. **Luken**. It would seem that it would be, again—those of us who remember, but you don't have to remember, you can read the history books on the surge—that in World War II, fortunately most of the action was far away and we didn't have missiles and we didn't have other intercontinental kinds of weapons or other systems that bridged the gap between here and Japan and/or here and Germany, in such an immediate kind of timeframe as would be the case now and even would be shortened even more, so in the future. And in World War II it took us a while to get mobilized, didn't it?

Mr. COPELAND. It certainly did.

Mr. LUKEN. That was the biggest handicap that we had. Once we got mobilized, as Mr. Gonzalez suggests, we could have been in the situation except for our preparedness in the area of being a creditor nation. I think that is what he suggested.

If we hadn't been prepared in that area, we might have lost the war very quickly. We could have won it a lot more quickly if we had been mobilized. It took us a while to get going. This is the basic machine tool industry, the manufacture of the tools which produced the tools which produced the weapons which produced everything practically that we used. That seems like the basic industry for military preparedness.

Mr. COPELAND. It certainly is. One of the interesting things that struck us in reviewing what has happened in our relationships tradewise with Japan is they have initiated voluntary restraints on textile machinery, on consumer electronics, on automobiles, which are fairly well known. They have done very little, if anything, in this machine tool sector.

Perhaps in their long-term strategy, knowing that once establishing a foothold they become an integral part of whatever our industry manufacturing base is going to be and you can't do without them; that is, it smacks of planning, which we do very little of in this country or in the way of preparedness. We do very little to prepare ourselves for some kind of an eventuality here. I think that seems to be far from our thought.

We store strategic materials in stockpiles but we do not give due consideration to how we are going to rearm or help an ally who may need rearmament, not 18 or 24 months and 8,000 miles away but in 30, 60, or 90 days.

Mr. LUKEN. It might seem a little afield from a Small Business Committee consideration, however. We find that most of these things are related, and all of us find in our individual, or at least I do—Cincinnati does have machine tool operations. I have been involved in at least two of them that I can recall, one of them with a machine tool that was used in the production of the XM tank, in the new tank, and another involving a NATO operation, where I find that the defendant pays lipservice to the principle that we are discussing right now but they simply don't follow through and they don't seem to be alert and aware, as the individual cases arise, that they should abide by this principle and not just put it in their regulations and then ignore it. That is the problem that I have.

Mr. COPELAND. I think that there are too many sectors within the political arena within the administration which——

Mr. LUKEN. Incidentally, if I may interrupt, I am not just talking about this administration. One of my examples was the last administration and the other one was this administration, and I will say for this administration that they seem to have recognized the problem once we forcibly brought it to their attention. Go ahead.

Mr. COPELAND. I would say that it seems all too often that these sensitive areas, once they are recognized, that remedial action seems to be few and far between all too often.

Mr. **Luken**. Well, I won't abuse my privilege anymore. Anything else?

Mr. **Gonzalez**. Thank you very much. If I may ask unanimous consent, I may wish to submit one or two questions in writing in time for Mr. Copeland to address when he gets a copy of the transcript.

Mr. **Luken**. Without objection.

Thank you, Mr. Copeland. You have been very, very helpful.

Mr. **Copeland**. My pleasure.

Mr. **Luken**. Our next witness, Mr. Henry Sharpe.

Mr. Sharpe, you are president of Brown & Sharpe Manufacturing Co. in North Kingstown, RI. Is that correct?

Mr. **Sharpe**. Chairman, sir.

Mr. **Luken**. You are chairman, and you are accompanied by——

Mr. **Sharpe**. I have with me Mr. Mack of the National Machine Tool Builders Association.

Mr. **Luken**. Mr. James Mack, none other, right? All right, Mr. Sharpe, as we have previously indicated, I believe we have your written presentation which seems to be very thorough, and that will be received without objection. You may proceed in any way that you think will be helpful to us and we will follow the same procedure as the previous witness, try to do it in about 10 minutes.

TESTIMONY OF HENRY D. SHARPE, JR., CHAIRMAN, BROWN & SHARPE MANUFACTURING CO., ON BEHALF OF THE NATIONAL MACHINE TOOL BUILDERS' ASSOCIATION; ACCOMPANIED BY JAMES H. MACK, PUBLIC AFFAIRS DIRECTOR, NMTBA

Mr. **Sharpe**. Thank you, Mr. Chairman.

As has been indicated, my name is Henry D. Sharpe, Jr., and I am the chairman of the Brown & Sharpe Manufacturing Co. of Kingstown, RI. My company is a member of the National Machine Tool Builders Association, on whose behalf I appear before you this morning. And as has been indicated, Jim Mack, National Machine Tool Builders Public Affairs Director, is with me.

Mr. Chairman, we appreciate the opportunity to bring to your attention the serious threat currently facing one of this Nation's key industries—the U.S. machine tool industry. This forum is particularly appropriate because the U.S. machine tool industry is to a great extent comprised of small businesses.

An extensive overview of the industry appears in my full statement. I will summarize simply by saying that the past 2½ years have been years of dramatic retrenchment for the machine tool industry. Imports—coupled with the worst economic downturn in 50 years—are literally killing the domestic production capability of our industry. In my own company's case, we are only beginning to climb out of the bottom of the trough of this most severe recession.

Employment at Brown & Sharpe's principal facility in Rhode Island has fallen below 1,000 for the first time since 1895. Those employed in the machine tool activities in Rhode Island have dropped 70 percent in the last 3 years, approximately a loss of 900 jobs. We have experienced machine tool losses in 12 of the last 16 quarters, frequently running into the multiple millions of dollars, and those losses, I regret to say, continue to this moment, despite the successful efforts we have made and are making to get back into the black.

Since 1964, America's imports of foreign machine tools have increased eightfold from 4.5 percent of total consumption 20 years ago to 34 percent, based on value, in the first three quarters of 1983. Even more disturbing is that the products most affected by imports are increasingly more technologically advanced and defense-sensitive equipment.

In response to the unprecedented and ever-rising tide of imports, on March 10, 1983, NMTBA filed a petition under the national security provision of the trade laws with the Secretary of Commerce seeking trade relief in the form of quotas upon metal-cutting and metal-forming machine tools imported into the United States.

My full statement details the parameters of the relief requested. More to the point, the quotas requested are intended to achieve specific national security objectives—restoration of the health of the domestic machine tool industry and expansion of its mobilization capability. The quotas would allow importers to participate in any increase in U.S. consumption of machine tools, but on a proportionate basis.

On February 28, the Department of Commerce transmitted its recommendations to the White House. Although these recommendations remain classified, we are encouraged to believe that the Department has made a positive finding with respect to some, if not all, of the 18 broad categories of machine tools for which we asked import relief.

Mr. LUKEN. If I may interrupt, there was some news this morning——

Mr. SHARPE. There was.

Mr. LUKEN [continuing]. In the paper that reflected the accuracy of the prediction that you just made.

Mr. SHARPE. And there were in that story some misconceptions as to what was being asked. These we have discussed briefly with you and should be noted.

Mr. LUKEN. Do you want to go into them now? This is informal. Why don't you cover that? We will wait until the end of your prepared testimony, then ask Mr. Mack to discuss that.

Mr. SHARPE. If I may continue.

Mr. LUKEN. I apologize for the interruption.

Mr. SHARPE. In the past, when 232 petitions have been turned down by the Department of Commerce, the Department's findings have been made public within 24 to 48 hours. In the case of our petition 3 weeks have elapsed, and the Department's findings remain classified pending a final decision by the President. This provides us with cause for optimism.

However, we are concerned that the decisionmaking process at the White House may become bogged down in delays and interagency bickering. We have heard that some in the administration have recommended that a Presidential decision be postponed until an interagency study of America's entire mobilization strategy is completed.

This major mobilization study has been going on for several years, and very few of the departments participating in it believe that an early resolution is likely. We believe that the President should proceed with dispatch to make a decision and that postponement for several months or even years, pending the completion of the overall mobilization plan, constitutes an unconscionable and unnecessary delay.

My company and others in the machine tool industry must ultimately make an important decision about our future plans. Most of us are committed to remaining in the machine tool industry. The question is how we shall remain. We can either continue manufacturing machine tools in the United States or we can become consultants to our customers on productivity improvements—acting as distributors of foreign machine tools or operating under joint ventures and partnerships with foreign sources, principally in the Far East.

I might interject, there is inconsistency in our national policy. We are an extremely ardent nation in terms of our willingness to restrict the export of certain supposedly militarily sensitive machine tools and technologies, but very soon, gentlemen, if this action is not taken, in our view there may be no more sensitive exports to rule against.

To be sure, opting for locating the principal source of machine tool production offshore would be detrimental to the national security of the United States. That is why we asked the Government last March to participate with us in the decisionmaking process through our section 232 petition.

Most of us have waited for over a year, believing that our Government should have an opportunity to make a critically important decision about the continued need for a strong domestic machine tool production capacity, in light of America's national security requirements. And we are prepared to wait a reasonable time longer for the President to make his decision on our petition. Again, we may soon have no more sensitive exports to worry about.

But we cannot wait forever. We are hopeful, therefore, that the President will act expeditiously. If he does not—if the decision is unnecessarily delayed—the Government could find that there is no longer any appreciable domestic machine tool production to protect. It will have relocated itself to the Far East, and America will have become dependent upon foreign sources for a critically important element in our defense industrial base.

The matter is squarely up to the President of the United States. We hope for an early resolution.

The national security clause, upon which our petition is based, serves as a nexus between the trade and national security policies of the United States. It reflects the longstanding congressional policy that any advantages from international trade during peacetime must be subordinated to reasonable precautions for the national security.

In fact, the President has recently reaffirmed this policy in a National Security Decision Directive that expressly provides for "increase[ing] the capability of industry * * * to meet national security needs through * * * use of import and export controls."

Indeed, a review of the legislative history surrounding congressional adoption of the national security clause impels one to the conclusion that the machine tool industry was precisely one of the industries Congress intended to protect through its enactment.

Although it is often argued that protectionism may reduce the wealth of nations, the failure to protect national security may be even more devastating.

Mr. Chairman, we earnestly submit, our Nation's security rests in large measure on machine tools, because a sufficient number of the right kind of machine tools is the critical prerequisite to industrial support for the military during a national security emergency.

Ever since World War I, Congress, the executive and the armed forces have recognized the critical importance of machine tools to the national security. Only recently, the Government reemphasized this importance when reinstituting a "trigger order program" for the more rapid procurement of American-made machine tools in times of national emergency.

The importance of machine tools for military production is underscored by data showing the large portion of aggregate machine tool consumption that is linked directly or indirectly to defense. By conservative estimate, up to 20 percent of the aggregate domestic consumption of machine tools is related to defense needs even in peacetime.

The remaining portion of the domestic consumption of machine tools is of course related to civilian needs. Although some portion of the machine tool industry's production for civilian needs could be diverted to defense-related needs in a time of mobilization, a substantial portion could not be without seriously damaging the essential civilian infrastructure that has to support efficient defense production.

The recent rampant growth in the share that imports hold in the U.S. machine tool market has set in motion a trend toward the debilitation of the U.S. machine tool industry. If this trend is permitted to continue, substantial existing machinetool manufacturing capacity will be effectively displaced from the United States to overseas locations that may not be accessible to us during a serious national security emergency.

Equally threatening to the national security is the damage to the financial and competitive strength of the remaining portion of the U.S. mahine-tool industry, with the resulting damage to its ability to innovate and maintain its technological status, that would occur if this trend continues.

In short, current trends, if they continue unchanged, will almost certainly leave the United States with a machine tool industry that is smaller and weaker than can be prudently tolerated.

Notwithstanding currently discouraging economic circumstances, the U.S. machinetool industry has mounted a vigorous campaign of self-help described in detail in my full statement.

However, because of the depth of the current recession and the scope of recent import penetration, the industry vitally needs the temporary import relief requested in NMTBA's section 232 petition. The quota relief requested by NMTBA would strengthen the support of shareholders and capital markets to allow the necessary sustained commitments of capital.

Some have also argued that critical goods and materials needed in a time of war can be stockpiled. But production capacity, know-how and readiness cannot be stockpiled. Sophisticated production processes and sophisticated weapon systems require a domestic machine tool industry that is at least equal to the world's best. As imports continue to rise, the U.S. machine tool industry—long the world leader—is in danger of losing its technological advantage as well as its production capacity.

NMTBA submits, therefore, that under section 232, action must be taken to adjust the level of imports so that the U.S. machine tool industry can regain its competitive edge, thereby reducing the current threat to our national security.

[Mr. Sharpe's prepared statement follows:]

PREPARED STATEMENT OF HENRY D. SHARPE, JR., CHAIRMAN, BROWN & SHARPE MANUFACTURING CO., ON BEHALF OF THE NATIONAL MACHINE TOOL BUILDERS' ASSOCIATION

I. INTRODUCTION

Good morning, my name is Henry D. Sharpe, Jr. I am Chairman of the Brown & Sharpe Manufacturing Company of North Kingstown, Rhode Island.

My company is a member of the National Machine Tool Builders' Association (NMTBA), on whose behalf I am appearing this morning. Accompanying me today is James H. Mack, NMTBA's Public Affairs Director. NMTBA is a trade association consisting of over 287 American machine tool manufacturing companies, which produce approximately 85 percent of the machine tools made in the United States.

Mr. Chairman, we appreciate the opportunity to bring to your attention the serious threat currently facing one of this nations key industries -- the U.S. Machine Tool Industry. This forum is particularly appropriate because the U.S. Machine Tool Industry is to a great extent comprised of small businesses.

An extensive overview of the industry appears later in this statement. I will summarize that overview by simply saying that the machine tool industry is the cornerstone of the manufacturing process, and in particular, virtually all facets of military production.

Unfortunately, the past two and one-half years have been years of retrenchment for the machine tool industry -- sustained decline following six years of strength. As this statement will document, orders, shipments and employment have each dropped dramatically.

Employment at Brown & Sharpe's principal facility in Rhode Island where our machine tool division is headquartered dropped below 1,000 employees for the first time since 1895. Our U.S. machine tool employment has dropped 71% in 3 short years. And many of the remaining employees are on short work weeks and other forms of mandatory furlough.

The reasons for the industry-wide decline are varied and complex. Certainly, the recent economic downturn and the decline in the nation's rate of capital spending resulting from it have played a significant role. Even more significant, however, is the phenomenal influx of imported machine tools. Since 1964, America's imports of foreign machine tools have increased eight-fold from 4.5 percent of total consumption 20 years ago to 34 percent, based on value, in the first three quarters of 1983. As a share of units (that is, machines actually installed), imports accounted for nearly 37 percent of U.S. consumption in 1983. The fact that we are losing an increasingly larger share of our domestic machine tool market to imports each year is, by itself, cause for concern. But perhaps even more disturbing is the changing character of that market share -- our testimony will indicate that it is increasingly comprised of more technologically advanced and defense-sensitive equipment.

Clearly, the machine tool industry is vital to the defense of this country and its ability to respond in the event of a national emergency.

In response to the unprecedented and ever-rising tide of imports, on March 10, 1983, NMTBA filed a petition under the National Security provision of the Trade Laws (19 U.S.C. §1862) with the Secretary of Commerce seeking trade relief in the form of quotas upon metal-cutting and metal-forming machine tools imported into the United States. More specifically, NMTBA requests a five-year regime of quotas limiting imports in each of the two broad sectors of machine tools to 17.5 percent of domestic consumption, measured by value. To preserve the domestic industry's capability to produce the complete range of major types of machine tools, NMTBA further requests that separate quotas be applied within these broad sectors so that imports of specific types of machine tools cannot exceed twenty percent of annual domestic consumption of each of 18 product types.

These levels of quotas are intended to achieve specific national security objectives -- restoration of the health of the domestic machine tool industry and expansion of its mobilization capability. The quotas are expressed in terms of value, instead of units, to prevent foreign producers from effectively increasing their market share by concentrating their shipments to the United States in the highest-priced models. It should be noted, however, that the quotas requested do not confine importers to any fixed dollar value of imports during the five-year period. Instead, they would allow importers to participate proportionately in any increase in U.S. consumption of machine tools.

On February 28th the Department of Commerce transmitted its recommendations to the White House. Although these recommendations remain classified, we are encouraged to believe that the Department has made a positive finding with respect to some, if not all, of the eighteen broad categories of machine tools, for which we asked import relief. In the past, when 232 petitions have been turned down by the Department of Commerce, the Department's findings have been made public within 24 to 48 hours. In the case of our Petition three weeks have elapsed, and the Department's findings remain classified, pending a final decision by the President. This provides us with cause for optimism.

However, we are concerned that the decision-making process at the White House may become bogged down in delays and inter-agency bickering. We have heard that some in the Administration have recommended that a Presidential decision be postponed until an inter-agency study of America's entire mobilization strategy is completed. This major mobilization study has been going on for several years, and very few of the Departments participating in it believe that an early resolution is likely. We believe that the President should proceed with dispatch to make a decision and that postponement for several months or even years, pending the completion of the overall mobilization plan constitutes an unconscionable and unnecessary delay.

My company and others in the machine tool industry must ultimately make an important decision about our future plans. Most of us are committed to remaining in the machine tool industry. The question is how we shall remain. We can either continue manufacturing machine tools in the United States, or we can become consultants to our customers on productivity improvements -- acting as distributors of foreign machine tools or operating under joint ventures and partnerships with foreign sources, principally in the Far East.

To be sure opting for locating the principal source of machine tool production offshore would be detrimental to the national security of the United States. That is why we asked the government last March to participate with us in the decision-making process through our Section 232 Petition. Most of us have waited for over a year, believing that our government should have an opportunity to make a critically important decision about the continued need for a strong domestic machine tool production capacity, in light of America's national security requirements. And we are prepared to wait a reasonable time longer for the President to make his decision on our Petition.

But we cannot wait forever. We are hopeful, therefore, that the President will act expeditiously. If he does not -- if the decision is unnecessarily delayed -- the government could find that there is no longer any appreciable domestic machine tool production to protect. It will have relocated itself to the Far East, and America will have become dependent upon foreign sources for a critically important element in our defense industrial base.

The matter is squarely up to the President of the United States.

A longstanding characteristic of the machine tool industry that unfortunately shows no sign of changing is the extremely cyclical demand for machine tools. The level of orders for machine tools is determined primarily by industrial propensities to invest in capital goods; these propensities vary from sector to sector and from time to time. Financial and operating conditions, such as profitability, business confidence and the current and projected levels of capacity utilization, combine with changes in the economy-wide cost of capital and other factors to produce the complex lag relationship between demand on machine tool buyers and demand on machine tool builders. Fluctuations in demand and industry shipments have often been abrupt, as Figures 1, 2 and 3 show.

The economic behavior of machine tool producers has been fundamentally affected by the cyclicality of their industry. Because of such cycles, the industry has tended not to invest in new capacity until the long-term need for such capacity becomes reasonably well established. To do otherwise would be to invest capital that would be unproductive during downturns in the industry's cycles and hence would produce, over the entire cycle, an inadequate return on investment. The industry has also sought to buffer its cycles by accumulating new orders during periods of strong demand and filling such orders during periods of slack demand. This policy minimizes layoffs of the skilled workers on which the industry depends and rationalizes production schedules. The result, however, has been that increases in new orders have been accompanied by lengthening lead times.

Among other results, the industry's cycles have: (1) made a high debt-equity ratio imprudent, if not impossible, in light of the attitude of lending institutions toward debt-service coverage during downturns in the business cycle, (2) required the industry to offset losses during bad years by achieving or attempting to achieve compensatory profits during good years, and (3) restricted the industry's ability to expand its production rapidly in response to increases in new orders.

The relatively small size of the companies comprising the United States machine tool industry and the constraints that its cyclicality imposes on their financing and operation have made this industry, and the enormous American market that it primarily serves, vulnerable to targeting by foreign governments. These governments have recognized, and have exploited, the competitive advantages that can be attained in this market by subsidized and governmentally-organized foreign companies.

II. THE CONDITION OF THE U.S. MACHINE TOOL INDUSTRY REMAINS DEPRESSED AND IMPERILED

The United States machine tool industry is severely depressed. Current data on orders, shipments, employment, profits, capital formation and capacity utilization all point to the conclusion that the industry is experiencing unprecedented strains -- strains that cannot safely be assumed to be a result of the business cycle.

Because a number of news stories have reported increased orders for machine tools in recent months, some have interpreted these reports as an indication that the machine tool industry has begun a significant recovery and that its economic woes will soon be over.

Unfortunately, this is clearly not the case. While orders have increased moderately from last year's levels, those 1982 levels were so extraordinarily low that even a modest increase looks big on a percentage basis. When expressed in real, inflation-adjusted dollars, however, the industry's economic position today can be shown to be more precarious than it was a year ago.

More importantly, even as the total machine tool market has declined over the past three years, the market share of imported machine tools continues to skyrocket. Hence, even with the current modest increase in machine tool orders, an increasingly large percentage is going to foreign manufacturers.

If anything, the most recently available data support even more strongly the industry's contention that a curb on imports is urgently needed to assure the continued viability of a domestic machine tool industry capable of meeting our national security needs.

A. New Orders

When the industry's section 232 petition was filed in March 1983, its net new orders were at their lowest level in over a decade in nominal dollars. Far more important, however, in real, inflation-adjusted dollars, orders had fallen to their lowest levels since the recession of the late 1940's.

It is from this 35 year low point that a small increase has taken place.

Using 1972 constant dollars, the value of net new machine tool orders for the first three quarters of 1983 (latest data) are as follows: $99.5 million; $124.9 million; and $146.6 million, for a total of $371.0 million. Real orders for the same period in 1982 stood at $376.2 million, leaving 1983 $5.2 million behind the 1982 totals. While quarterly order levels have strengthened throughout 1983, the industry is clearly far from substantial recovery.

In contrast to the "improved" quarterly averages of 1983, consider the levels of quarterly average real orders in the past few years:

1978	$554.1 million
1979	623.6 million
1980	450.8 million
1981	253.2 million
1982	120.3 million
1983	123.7 million (first three quarters)

Even at the depth of the previous machine tool order recession in 1975, quarterly average orders were almost $215 million, with the worst quarter during that decline being $163.9 million. In other words, to date, the very best quarter of 1983 was still below the very worst quarter of the industry's previous recession! This can hardly be classified as an industry recovery.

B. Shipments

Even worse, since the cash flow of the industry is tied to shipments--not orders--the revenues from even the modest 1983 increases in orders will not reach machine tool companies for some time. In fact, shipments in the latest reported quarter (third quarter 1983) stand at the lowest level in real dollars since the end of World War II.

The 1982 level, again in real inflation-adjusted dollars, was $972.4 million. The 1983 level is $414.1 million. Since the builders do not receive their money until the machine is shipped, the actual amount of cash coming into the industry today is at an all time low.

C. Employment

Although the industry has been able to rehire a few employees in 1983, we have hardly been able to make a dent. From April of 1980 to July of 1983, employment in the domestic industry plummetted from 110,200 workers to 64,600. This is an average job loss rate of over 1100 persons per month for 40 months. By October of 1983, the industry had rehired only 1400 of these laid-off workers. While orders have shown signs of improvement throughout 1983, in the course of the three months following the industry's employment trough we were only able to rehire 3 percent of the work force that had been laid off during the industry's long downturn.

Figure 4 breaks out separately the industry's total employment of "production workers" annually for the years 1972 through 1979 and monthly for the years 1980 through 1982.

This category, which excludes employees engaged in sales, service and administrative occupations, includes the skilled machinists and other production employees whose training and experience are essential to any mobilization effort. Employment of those workers has fallen 46.2 percent from a peak of 73,700 in April of 1980 to 39,600 as of December 1982, and fell further to 36,600 by

July of 1983 when the trough in the industry's employment levels occurred in mid-1983.

The decline in employment of production workers is proportionately greater then the decline in overall employment and has reached into the ranks of workers with relatively high levels of seniority and competence. Industry management is deeply concerned about the implications of this development for the industry's competitive position. The quality of the industry's products depends to a substantial extent on the competence of its production workers. Skilled production workers who are laid off and then find other jobs will be reluctant to return to a cyclical industry that is seriously threatened by imports. The training of replacement workers typically takes two to four years. In the meantime, production efficiency and product quality are likely to suffer, thereby further eroding the industry's competitive position.

Nor does the foregoing employment data fully reflect the depressed state of the domestic machine tool industry. Many workers who remain on the payroll are working short weeks: seven-hour days and four-day weeks, for example, are common.

In our own case at Brown & Sharpe, our Rhode Island machine tool employment is down 71% since 1980 -- a loss of over 900 jobs in our community.

D. Capacity Utilization

The operating rate of capacity utilization rate measures "[t]he ratio of physical output to physical capacity."[1] Figure 5 records the operating rate for the nonelectrical machinery industry annually for the period 1972 through 1979 and monthly for the years 1980 through 1982 as reported in the long-standing McGraw-Hill surveys.[2] As Figure 5 shows, capacity utilization as of December 1982 was 62.2 percent, its lowest point in the history of the index.[3]

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[1] The McGraw-Hill Dictionary of Modern Economics (2d ed. D. Greenwald 1973), p. 412.

Understandably, numerous plants have been or are being closed. resulting in a permanent loss of production capacity. In the Cleveland area, for example, among major machine tool builders both Acme-Cleveland Corporation and Warner & Swasey Company (a subsidiary of Bendix) have recently closed plants and offered them for sale. Among other publicly-held companies, Ex-Cell-O Corporation and Cross & Trecker Corporation, both based in Detroit, have recently announced plant closings.

The nonelectrical machinery industry encompassed by the McGraw-Hill report is broader than the machine tool industry, but its operating rates are considered to be fairly representative of those experienced by the machine tool industry over a full business cycle.

E. Industry Profits

Figure 6 shows the industry's pre-tax profits as a percentage of sales for the years 1972 through 1982.

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[2] McGraw-Hill Publishing Company, Department of Economics, "McGraw-Hill Operating Rates Report" (monthly).

[3] In January 1983 the McGraw-Hill index dropped to a new all-time low of 62.1 percent.

Figure 7 shows for the years 1972 through 1982 the industry's pre-tax profits expressed as a return on gross assets. Figures 6 and 7 document the fluctuations in the industry's profits and the sharp drop in those profits in 1982. The profit outlook for 1983 is even worse.

The risks of investing in the machine tool business are reflected by the uncertainty of the industry's earnings performance over the years. Even under normal conditions, earnings fluctuations in this industry are greater than those experienced by manufacturing industries generally. With imports now holding a large and increasing share of the market, the risks of investing in the machine tool industry are accentuated. Unless the projected returns on investment are high enough to compensate for those risks, managers cannot justify decisions to reinvest. Conglomerate parent corporations engaged in other lines of business will invest their capital elsewhere.

F. Capital Investment

Not surprisingly, in view of the substantial decline in new orders, shipments and profits, the industry's constant dollar net capital investment fell off perceptibly in 1982. As shown in Figures 8 and 9, the industry's net new investment in 1982 was inadequate even to cover the depreciation of existing plant and equipment, resulting in a decline in net plant and equipment on hand.

G. Research and Development

Figure 10 shows the industry's aggregate expenditures for research and development for the years 1972 through 1981.

Figure 10 illustrates that the industry has held fairly steady through 1981 in its research and development expenditures. In the circumstances now facing the industry, however, it is far from clear that this trend will continue. Clearly, any significant decline in -- indeed, any failure to increase -- R & D expenditures would have ominous implications regarding the industry's future competitiveness.

H. Industry Outlook

Only recently have new orders indicated that the U.S. machine tool industry is gradually emerging from the nadir of its worst recession in decades. For example, my own company has suffered losses in 12 of the last 16 quarters. 1983 sales were 64% below the 1980 level. However, despite the general economic upturn the fact is that those in this country that buy metalworking equipment are still hedging their bet to see if they really are going to start placing significantly large orders once again. The continuing gravity of the industry's condition has been recognized by Eli S. Lustgarten, Vice President of Paine Webber Mitchell Hutchins and a respected securities analyst of the machine tool industry. In recent congressional testimony, Mr. Lustgarten noted that during the first half of 1983, orders continued "at about the same low level of demand as 1982. . .declining new orders and a sharp increase in the cancellation rate resulted in an 82% decline in the industry backlog to $950 million at the end of the second quarter of 1983 from the peak level in excess of $5.5 billion at the turn of the decade."[4]

It is probable that a substantial upturn in this capital goods industry will not occur until 1984[5] and that 1983 was a year of continued substantial losses for most U.S. machine tool companies. Mr. Lustgarten recently observed that "[t]he bottom line [for the U.S. machine tool industry] is that machine tool manufacturers will lose money in 1983 and perhaps through the first half of 1984 with plant closings, layoffs and severe price discounting commonplace."[6] He added that "[t]he current decline in machine tool demand is likely to be one of the sharpest and longest corrections of the post WW II era."[7]

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[4] Statement by Eli S. Lustgarten before the Subcomm. on Economic Stabilization of House Comm. on Banking, Finance and Urban Affairs, July 26, 1983, p. 1 (hereafter Statement by Eli S. Lustgarten, July 26, 1983). Elsewhere, Mr. Lustgarten has stated his view that "the recent buoyant action of machine tool stocks is based on wishful thinking." New York Times, June 8, 1983, p. D-10.

[5] The Wall Street Journal has reported:

> Chief White House economist Feldstein warns that high interest rates and the strong dollar will crimp some industries and keep the recovery uneven. Exporters face persistent trouble selling abroad. Interest rates will continue to curb construction and sales of much business equipment. One analyst sees no significant gain in capital spending for six to nine months." Id., July 15, 1983, p. 1.

The Washington Post recently reported that, while new orders for machine tools in June 1983 were up nearly 50 percent from the level in January 1983, many "customers are either postponing delivery on existing orders or writing new orders with unusually long-term delivery schedules, apparently to avoid paying for the machinery until interest rates drop and cash flow improves and until demand for their products picks up and makes the new manufacturing equipment necessary." Id., August 25, 1983, p. C3. The article observes that "machine tools are not paid for until they are delivered" and that "[s]imply placing an order costs virtually nothing." Id. the Conference Board recently reported that its survey of business executives shows that, while "[b]usiness confidence in the second quarter [of 1983] soared to its highest level in the seven-year history of [the] survey . . ., 72 percent of the respondents did not revise their capital spending plans and 11 percent actually lowered them. . . ." American Metal Market, July 18, 1983, p. 15.

During this depression in the industry, a formidable expansion of the share of U.S. machine tool consumption attributable to imports, particularly those from Japan, continued. In 1983 in the United States, consumption of machine tools declined by 45 percent, this following a 23 percent decline in 1982. However, during this time total consumption of imported machine tools declined only 9 percent in 1982 and by a further 23 percent in 1983 [8] Not only did imports fare relatively well in the U.S. market, but, the total business of key foreign producers fared significantly better than the business of U.S. producers in the current world machine tool recession. While the U.S. suffered a decline in total shipments of 29 percent in 1982 and 45 percent in 1983, Japanese production declined by 9 percent in 1982 and by only 7 percent in 1983. West German production declined by only 19 percent over the two years.[9]

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[6] Statement by Eli S. Lustgarten, July 26, 1983, p.2.

[7] Id.

[8] American Machinist, February 1984, p. 77.

[9] American Machinist, February 1984, p. 77.

Now that the lead times of American machine tool producers are short,[10] Japanese producers are pursuing what appears to be a relentless campaign to increase their already significant share of the U.S. machine tool market by offering, on a regular basis, deep discounts below their list prices and extremely generous financing terms. In recent testimony before the International Trade Commission, the chairman of Acme-Cleveland Corporation stated that "[a] representative example is provided in a letter that the president of Lodge & Shipley recently sent to the Commission, which describes a recent sale by the Japanese Yamazaki Machine Tool Company at a 28 percent discount off list price, with a six-month cost-free trial period and then 10 percent down and five years to pay with 4 percent interest."[11]

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[10] In April 1981, the order backlog of the U.S. machine tool industry was approximately $5 billion. In April 1983, it was $989 million. New York Times, June 8, 1983, p. D-10. It was recently reported that "[d]efense contractors note there is up to a one-third improvement in the delivery times by domestic machine tool makers." American Metal Market, August. 22, 1983, p. 20. The director of plant engineering at McDonnell Aircraft Company, Tulsa, stated that "the delivery time from U.S. machine tool manufacturers has improved considerably. In some cases it's down to six months. The machine tool builders have been able to meet the delivery schedule quoted to us.'" Id. A spokesman for the fabrication division of the Boeing Company, Seattle, stated that "'there is much better delivery and availability from U.S. machine tool builders, who are on schedule with no delivery problems.'" Id.

[11] Testimony of W. Paul Cooper before the International Trade Commission, June 28, 1983, p. 7. The ITC's recent survey of purchasers of machine tools indicates that as "the reason for purchasing foreign-made machine tools, price was ranked number one." Statement of Commissioner Haggart, Transcript of Proceedings, Hearings in re Competitive Assessment of the U.S. Metalworking Machine Tool Industry (No. 332-149), International Trade Comm'n, June 28, 1983

(footnote cont'd.)

III. THE CURRENT IMPORT TREND PRESENTS A VERY SERIOUS THREAT TO THE U.S. MACHINE TOOL INDUSTRY'S SHORT-TERM SURVIVAL AND LONG-TERM HEALTH

NMTBA's Petition was not prompted by a temporary glut of imports. Instead, it confronts an aggressive, abrupt thrust, primarily by Japanese manufacturers, aimed at domination of the U.S. and foreign markets for NC machine tools, which are not merely a niche but instead are, and for the foreseeable future will continue to be, the heart of the U.S. machine tool market. This thrust began in 1978-81, when Japan exploited, with prompt deliveries of import machine tools, the long backlogs of U.S. builders, which were swamped by an unusual and largely unanticipatable short-term acceleration of demand. Today, the Japanese thrust is powered by the extreme price discounting and unmatchable financing terms described above.

Foreign domination of the NC machine tool market is likely to have serious long-term consequences for the health of the U.S. industry, because NC machine tools are in the course of establishing a predominance in the U.S. market, now in the stand-alone machine tool market -- in which NC machine tools represented over 36 percent

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(hereafter "June 28 ITC Hearings"), p. 62. Recently, the Japan Economic Institute of America, a registered agent of the Japanese Government, took the position that "Japanese builders of numerically controlled lathes and machining centers . . . were no more successful in generating new business than their American counterparts, despite the availability of deep discounts, creative financing deals, and other generous sales incentives." JEI Report No. 21A (June 3, 1983), pp. 2-3 (emphasis added). "[P]rice cutting [in the machine tool industry] has been devastating . . . [and] rampant." New York Times, June 8, 1983, p. D-10.

of consumption in 1982[12] -- and in the future as the core of flexible manufacturing cells and systems.

The market for NC machine tools today consists almost exclusively of "stand-alone" machines that are not part of an integrated system. When capacity utilization rises in the companies that are the machine tool industry's customers, however, it is probable that many companies will begin to replace older machine tool layouts with state-of-the-art flexible manufacturing cells or systems, in which computer-integrated NC machine tools are the most important component. A flexible manufacturing system also includes controls, computer software, materials handling systems and, in some applications, robots. Together these ancillary elements account for a substantial part, perhaps a majority, of the value added to the FMS. Without its core of integrated NC machine tools, however, an FMS is worthless because it cannot perform the cutting and forming operations for which it is installed.

The advantages of FMS -- greater productivity through automation and the flexibility to adapt to market changes that come from the ability to make smaller batches economically -- give rise to predictions that the market for FMS will grow from a small figure today to as much as $1 billion by 1990.[13] This anticipated growth involves the bright hope of new business but also a future challenge to the industry's stability, because a significant part of the growth of the FMS market will occur at the expense of the existing market for non-flexible automation -- i.e., dedicated, high-volume transfer line machine tool assemblies -- which have remained almost unaffected by imports. It is essential to the long-term health of the U.S. machine tool industry that it secure a major participation in the supply of NC machine tools and ancillary equipment, software and services that will be demanded by the incipient FMS market.

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[12] Testimony of W. Paul Cooper before the International Trade Commission, June 28, 1983, p. 3.

[13] _Id._, p. 9.

United States machine tool builders remain the technological and sales leaders in the infant FMS market. In very few instances do U.S. machine tools presently lag behind the technology of foreign producers. Such technology lags, where they occur, are limited to highly specialized equipment.

The Japanese Ministry of International Trade and Industry, for example, recently acknowledged that their best machining centers are technologically inferior to the best machining centers made by U.S. builders, even though in 1982 Japanese machining centers accounted for 37 percent of U.S. consumption as measured by value and 63 percent as measured by units. According to MITI's report, the product technology level of Japanese machining centers is substantially inferior to that of American machining centers because the Japanese are "considerably behind the U.S. . . . in spindle speeds, maximum allowable torque, main motor output and cutting efficiency."[14] The report adds that "[i]n precision machinery technology, . . . Japan is behind the U.S. and West Germany" and that "Japan is also behind the U.S. in design technology, where the U.S. is pouring effort into CAD/CAM."[15] MITI also concluded that Japan is inferior to the United States with respect to the production of package software.

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[14] Metalworking Engineering and Marketing, May 1983, p. 82.

In addition, American FMS technology is unexcelled. "At the end of 1981, there were only 25 truly flexible systems operating in the world, (two thirds of which were in the U.S.)."[16] Hughes Aircraft Company recently put in operation an FMS built in the U.S. by Cross & Trecker for the production of aircraft and missile parts. "[M]anagement mandated that the most modern, state-of-the-art equipment would be provided," and although "Hughes has no 'buy-American' policy, . . . all bidders were U.S. firms."[17] More recently, the Watervliet Arsenal awarded a $15.3 million contract to the Manufacturing Systems Division of White Consolidated Industries for installation of a state-of-the-art FMS.[18] Representatives of the U.S. machine tool industry have strenuously affirmed the preeminence of U.S. builders in FMS technology and NC machine tools generally.[19]

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[15] Id.

[16] Statement by Eli S. Lustgarten, July 26, 1983, p. 15.

[17] American Machinist, May 1983, pp. 109-11.

[18] American Metal Market, August 22, 1983, p. 17.

[19] Testimony of Richard T. Lindgren, President and Chief Executive Officer, Cross & Trecker Corporation, before the International Trade Commission, June 28, 1983, p. 2.

But there is a real danger that, as with NC stand-alone machine tools -- whose technology the U.S. industry invented and commercialized -- the FMS market may be lost to low-priced foreign competition. If foreign imports succeed in the short-term in establishing a dominant position in the U.S. market for NC stand-alone machine tools, they will be in an excellent position to take a commanding share of the FMS market. If this happens, major parts of the U.S. machine tool building industry will be gravely and permanently debilitated. Therefore, the recovery of strength in NC stand-alone machine tool markets in the near term is a prerequisite for the industry's long-term health.

The trend that will probably develop in the U.S. machine tool industry if the requested relief is denied has already appeared in tentative but unmistakable form. That trend is for foreign suppliers, particularly the Japanese, to supply the NC machine tools for the American market, while American companies supply some of the controls, robots, computer software and engineering design services used with the machine tools in FMS and similar applications. In other words, while American firms would supply technical services and some equipment ancillary to machine tools, the core of the factory automation systems -- the NC machine tools -- would come predominantly from abroad. If this trend is realized, it will result in a very major displacement of U.S. machine tool manufacturing capacity.

The very early stages of this trend are indicated by Bendix's[20] announcements last year that it would close or sell seven of its U.S. machine tool plants,[21] including a new plant in Nashville, Tennessee,[22] and is transferring production of all of its lathe parts and its NC chuckers, including its newest turning machine, to Japanese factories.[23] At the same time, pursuant to an agreement with Toyoda Machine Works, Ltd., Bendix will sell Japanese-made machining centers in the United States under the name "Bendix-Toyoda."[24] Similarly, the National Acme division of Acme-Cleveland Corporation recently announced that the state-of-the-art NC chucking machine that it developed jointly with Mitsubishi Heavy Industries, Ltd., will be produced in Japan for the indefinite future, although the machines will bear the National Acme label and Acme-Cleveland will retain the option to produce the machines in the U.S. The New Britain Machine Division of Litton Industries, Inc., will market in the U.S. numerically controlled vertical precision lathes produced by Tsugami Corporation of

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[20] Bendix's machine tool division was sold to Cross & Trecker in February, 1984 for a reported $65 million -- about one fourth of the price paid by Bendix for Warner & Swasey only four years ago. Prior to Bendix's acquisition of Warner & Swasey in late 1979, it already owned substantial machine tool producing capacity.

[21] Detroit Free Press, June 23, 1983, p. 8B.

[22] American Machinist, Jan. 1983, p. 43.

[23] Id.; American Metal Market, July 18, 1983, pp. 1, 18.

[24] American Machinist, Jan. 1983, p. 43.

Japan.[25] Cross & Trecker, which has closed and put up for sale its new and advanced machine tool manufacturing plant at Port Huron, Michigan, and its Fraser, Michigan, machining plant, is currently exploring the possibility of obtaining major components from Japan.[26]

At Brown & Sharpe economic circumstances have forced us to concentrate our extremely hardwon research dollars into product lines which are least likely to be targetted by our foreign competitors.

Our leading area of concentration since 1980 has been the reconception and redesign of our surface grinder line to take full advantage of what electronic controls can now do and new grinding technologies which have come to the fore in recent years.

In the meantime, we have licensed the manufacturer of certain lines of our traditionally U.S. made grinding machines to Japan partly to enhance our flow of royalties from our designs and partly to assist ourselves in building constructive networks with manufacturers in other markets whose capabilities may in the future become necessary to us.

These highly focused efforts to enhance our U.S. product have been made possible, in large measure, by our decision to sacrifice production of certain important lines of equipment in this country and redirect the assets formerly employed in those activities toward the development of these new specialized niches which we feel can be successful.

Nathaniel S. Howe, former Chairman of NMTBA stated that, with respect to the developing trend toward American companies' shifting of production facilities to overseas sites:

> "[M]any of the . . . machine tool companies in this country have, in effect, developed what I call standby plans. They are waiting to see what's going to happen. We are not going to perish and if it becomes a requirement to go overseas to get the manufacturing done, that's very likely what's going to happen. But I would say basically that there are many companies who wish to remain here and continue their manufacturing here if conditions permit."[27]

If, however, the trend toward foreign sourcing continues, domestic machine tool manufacturing capacity will fall rapidly.

IV. THE U.S. MACHINE TOOL INDUSTRY IS CRITICAL TO AMERICA'S NATIONAL SECURITY

The basis for our Petition is the National Security Clause of the United States trade laws, 19 U.S.C. § 1862, which serves as a nexus between the trade and national security policies of the United States. The Clause reflects the longstanding policy of Congress, that any advantages from international trade during peacetime must be subordinated to reasonable precautions for the national security. This policy, and the terms of the National Security Clause, are consistent with prevailing international law and are expressly

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[25] Japan Economic Institute, Japan Report, No. 162, Mar. 18, 1983, p. 4.

[26] American Metal Market, June 27, 1983, p. 14. Accord, Testimony of Richard T. Lindgren, President and Chief Executive Officer of Cross & Trecker Corp., June 28 ITC Hearings at 34, 39.

[27] Id. at 39-40.

acknowledged in Article XXI of the General Agreement on Tariffs and Trade ("GATT"). Indeed, it could hardly be otherwise, for no obligation of the federal government is more important than the protection of national security.

The National Security Clause's requirement that imports must not threaten to impair the national security is but one aspect of the more basic national policy to prepare in peacetime for the possibility of a future military conflict. In fact, this broader policy, as announced by the President, expressly provides for "increas[ing] the capability of industry . . . to meet national security needs through . . . use of import and export controls."[28]

As the Secretary of Defense recently stated, support of "the national capacity to expand defense production rapidly during a crisis" is a task "to be undertaken with a high sense of urgency."[29]

Everyone hopes that the possibility of war of any kind with the Soviet Union and its allies is remote. But it cannot be denied that the possibility exists and that, in the face of that possibility, the government has -- as it has recently reaffirmed -- "[a] fundamental obligation . . . to provide for the security of the

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[28] National Security Decision Directive Number 47 (July 22, 1982) p. 6.

[29] Annual Report of the Secretary of Defense to Congress, Fiscal Year 1983, p. I-11 (emphasis added). See also, Annual Report of the Secretary of Defense to Congress, Fiscal Year 1984, p. 115 ("We also recognize the vital role that industry must play in developing a capability to surge industrial production . . . for only when American industry has the capability to modernize and expand production to meet increased demands for weapons systems and supplies during times of emergency can we confidently face today's rapidly changing world conditions").

Nation . . . [by] hav[ing] an emergency mobilization preparedness program which will provide an effective capability to meet defense and essential civilian needs during national security emergencies."[30] It is national policy that such a preparedness program should "address the full spectrum of national security emergencies,"[31] including "a major military conflict."[32] In the same vein, the Secretary of Defense recently stated that "the United States must be prepared to cope with threats across the entire spectrum of conflict.[33]

Specifically, one of the President's recent National Security Decision Directives provides for an emergency-mobilization-preparedness program to "increase the capability of industry . . . to meet national security needs . . . ."[34] The Joint Chiefs of Staff have observed that "[a]ny major confrontation with the Soviet Union would place extraordinary demands on war materiel critical to sustaining U.S. forces. A strong industrial base, capable of rapid expansion, is therefore critical to both deterrence and defense."[35]

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[30] National Security Decision Directive Number 47 (July 22, 1982) at 1.

[31] Id. at 3.

[32] Id. at 5.

[33] Annual Report to Congress of the Secretary of Defense, Fiscal Year 1984, p. 37 (emphasis in original).

[34] National Security Decision Directive Number 47 (July 22, 1982) at 6.

[35] Organization of the Joint Chiefs of Staff, United States Military Posture For FY 1983, p. 53.

Consistent with this, Congressional policy, as expressed in the Defense Production Act, is that "[i]n view of the present international situation and in order to provide for the national defense and national security, our mobilization effort . . . requires the development of preparedness programs and the expansion of productive capacity and supply beyond the levels needed to meet the civilian demand, in order to reduce the time required for full mobilization in the event of an attack on the United States or to respond to actions occurring outside of the United States . . .."[36] This is not a new idea; for many decades it has been recognized that prompt mobilization of the Nation's industrial base is a prerequisite for meeting national emergencies successfully.

Indeed, a review of the legislative history surrounding Congressional adoption of the National Security Clause impels one to the conclusion that the machine tool industry was precisely one of the industries Congress intended to protect through its enactment.

Prospects for improved deterrence and international security are equally important to an investigation under the National Security Clause. A strong industrial base that will support prompt mobilization and sustained fighting has substantial value as a tool for diplomacy and as a deterrent to war.[37]

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[36] 50 App. U.S.C. § 2062 (Supp. V 1981).

[37] Certainly Soviet military experts recognize the strategic importance of the strength of United States' industrial capability. See Sokolovskii, ed., Soviet Military Strategy, 3rd ed. (1968)

(footnote cont'd.)

Relations with allied and uncommitted nations may become strained [if there] is the perception on the part of a foreign government that the United States may be unable to meet its international defense commitments." With respect to unfriendly and aggressive countries, the Department of Defense has expressed particular concern with "how hostile nations perceive our resolve and ability to respond effectively to challenges."[38] Therefore, if the decisionmakers in the Executive Branch of the government are to maintain a prudent regard for the national security, as national policy requires, they must follow peacetime policies that assure the vitality of domestic industries that would be essential for a successful national mobilization.

Although it is often argued that protectionism may reduce the wealth of nations, the failure to protect national security may be even more devastating. In the end, of course, marginal changes in national income are not the decisive factor. As Adam Smith observed in his discussion of commercial trade, "Defense is of much more importance than opulence."[39]

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trans. by Hariett F. Scott, pp. 108-109, 114; N. Ogarkov, "Na strazhe mirnogo truda" [On Guard for Peaceful Labor], Kommunist, No. 10, July 1981, pp. 82-83; K. V. Chicherin, "Mobilizatsiia" [Mobilization] Sovetskaia voennaia entsiklopediia [Sov. Military Encyclopedia], vol. 5, pp. 342-344 (1978); K.K. Belokonov, "Mobilizatsionnye vozmozhnosti gosudarstva" [Mobilization Potential of States], Sovetskaia voennaia entsiklopediia [Sov. Military Encyclopedia], vol. 5, pp. 340-341.

[38] Submission of the Department of Defense of February 26, 1979, supra.

[39] A. Smith, quoted in C.P. Kindleberger, at 116.

"Our Nation's security rests in large measure on machine tools."[40] A sufficient number of the right kind of machine tools is the critical prerequisite to industrial support for the military during a national security emergency. In other words, "machine tools. . .are the seed corn of armament as well as all other production."[41]

Without machine tools, industry cannot begin to produce the vastly increased quantities of military equipment that mobilization requires. Every ship, plane, tank, missile, transport vehicle and other armament used by our armed forces, as well as essential elements of the supporting civilian infrastructure, are manufactured in large part on machine tools. Moreover, the production of sophisticated modern weapons increasingly requires high-technology machine tools, because the computer controls on such tools can assure the precise tolerances necessary for successful operation of the finished product. Ever since World War I Congress, the Executive and the armed forces have recognized the critical importance of machine tools to the national security. Only recently, the government reemphasized this importance when reinstituting a "Trigger Order Program" for the more rapid procurement of American-made machine tools in times of national emergency.[42]

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[40] Defense Production Act, Progress Report No. 13, Machine Tools, U.S. Congress, Joint Comm. on Defense Production, S. Rep. No. 1107, 82 Cong. 2d Sess. 1 (1952) (hereinafter Joint Committee on Defense Production Report No. 13). The introductory sections of the Report are reprinted in Appendix H.

[41] "The Machine Tool Fumble," Fortune, p. 56 (Jan. 1952).

[42] FEMA Forum, September 1982.

The importance of machine tools for military production, clearly recognized in the many statements and government programs discussed above, is underscored by data showing the large portion of aggregate machine tool consumption that is linked directly or indirectly to defense. Machine tool production for defense falls into three categories. The first two categories are the direct and indirect purchases of machine tools by the Department of Defense.[43] The third category, referred to as "induced capital" purchases, consists of purchases by defense contractors, subcontractors and suppliers for use in the production of ships, airplanes, tanks and all other weapons and military equipment.

The "induced capital" consumption of machine tools includes defense-related machine tool purchases on capital account by prime defense contractors and by the machine tool industry itself. However, it does not include defense subcontractor purchases of machine tools or other tertiary purchases of machine tools related to defense. The Department of Commerce has "estimated that about half the [defense] prime-contract awards are passed along to subcontractors."[44] For example: "Subcontractors produce jet engine blades, landing gears, avionics, ball bearings and castings used in aircraft, tanks, and ships.

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[43] Direct purchases by the Department of Defense include purchases of machine tools for government arsenals, shipyards and other defense agencies. Indirect purchases include purchases by private parties on current account (e.g., purchases of machine tools by private shipbuilders for installation in machine shops on shipboard) for delivery to defense agencies.

[44] Henry, "Defense Spending: A Growth Market for Industry," 1983 Commerce Outlook, supra, at XL (emphasis added).

These subcontractors are in turn supported by component and parts suppliers down to and through the basic metals industries."[45] By conservative estimate, up to 20 percent of the aggregate domestic consumption of machine tools is related to defense needs even in peacetime.[46]

The remaining portion of the domestic consumption of machine tools is of course related to civilian needs. Although some portion of the machine tool industry's production for civilian needs could be diverted to defense-related needs in a time of mobilization, a substantial portion could not be so diverted without seriously damaging the civilian economy including the essential civilian infrastructure (transportation and communications systems, etc.) that has to operate efficiently if defense production and the war effort itself are to be successful.

The recent, rampant growth in the share that imports hold in the United States machine tool market has set in motion a trend toward the debilitation of the United States machine tool industry; that in a time of serious national emergency, the United States could not count on foreign suppliers of machine tools; and that the government's only programs for assuring the availability of machine tools in a national emergency -- the Machine Tool Stockpile and the Trigger Order Program -- are clearly insufficient for that purpose.

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[45] Id.

[46] Data Resources, Inc. has developed these data based on the DEIMS and DIFS modeling systems. The mechanism for "translating" categories of defense expenditures into demands on private industry is based on the Department of Defense procedures.

If, the trend toward debilitation is permitted to continue, substantial existing machine tool manufacturing capacity will be effectively displaced from the United States to overseas locations that may not be accessible to us during a serious national security emergency. Equally threatening to the national security is the damage to the financial and competitive strength of the remaining portion of the United States machine tool industry, with the resulting damage to its ability to innovate and maintain its technological stature, that would occur if this trend continues. In short, current trends, if they continue unchanged, will almost certainly leave the United States with a machine tool industry that is smaller and weaker than can be prudently tolerated -- an industry that is permanently debilitated and inferior. Such a development would be a serious impairment of the nation's national security.

Imports of foreign-made machine tools seriously threaten to further debilitate the American machine tool industry. The practical effect of such debilitation would be to replace a significant part of the existing and potential machine tool production capacity in the United States with machine tool factories in foreign nations. At present, displacement would occur in favor of Japan and, to a lesser extent, the European Community; in the foreseeable future, there may be additional displacement to South Korea and Taiwan. The critical question, therefore, is whether such displacement would threaten to impair the national security. In other words, could the United States count on foreign machine tool suppliers during a serious national emergency?

The answer is no. The United States military has long sought to avoid "an unwanted reliance on overseas producers . . ., the worst effect of [which] . . . is that, if foreign supplies were denied to the United States during a mobilization emergency, the Government or private industry would have to recreate the productive capacity, with an attendant loss of time."[47] For the reasons stated above, if a serious military emergency occurs, it would probably be a conflict with the Soviet Union, and it is increasingly possible that such a conflict would be a protracted, possibly multi-theater, conventional war.

During such a war, sea and air lanes, which stretch 3,500 miles from the East Coast of the United States to Germany, and 7,500 miles from the West Coast to Japan, would be harassed or interdicted. As the Department of Commerce recently recognized, "under a full mobilization condition [transoceanic] shipping losses are estimated to be extensive."[48] The Secretary of Defense recently reported that "[t]he Soviet Union's greatly improved fleet gives it a capability to conduct an interdiction campaign against our shipping and naval forces in the Atlantic, Indian Ocean, and Northern Pacific. Soviet attack submarines and missile-equipped bombers would constitute a major threat in such a campaign, with missile-equipped bomber aircraft being particularly a threat in the Northern Atlantic, Arabian Sea, and Northern Pacific."[49]

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[47] Report of Joint Comm. on Defense Production, 95th Cong., 1st Sess., Civil Preparedness Review, Part I, Emergency Preparedness and Industrial Mobilization 61 (Comm. Print 1977).

[48] Investigation of Imports of Glass-Lined Chemical Processing Equipment, 47 Fed. Reg. 11,746, 11,753 (1982).

Additionally, the machine tool production facilities in Asia and Western Europe, particularly Japan and the Federal Republic of Germany, could be subject to attack. Port facilities and internal transportation in those countries might be blocked or disrupted. Moreover, Japan, because of its proximity to the Soviet Union and distance from the United States, is vulnerable to intimidation. In short, if a serious national emergency arises, there is a substantial risk that the supply of new machine tools, critical components, and spare parts for older machine tools from foreign sources would be radically reduced or completely halted just at the time that the demand in the United States for machine tools for military purposes would radically increase.

V. THE U.S. MACHINE TOOL INDUSTRY HAS UNDERTAKEN SUBSTANTIAL INITIATIVES TO HELP ITSELF

Notwithstanding currently discouraging economic circumstances, the U.S. machine tool industry has mounted a vigorous campaign of self-help. As even JMTBA acknowledged last year, the U.S. machine tool industry is "[l]earning its lesson from past downturns and from the stiff competition provided by foreign manufacturers."[50] The relief that NMTBA requests would complement the industry's self-help initiatives by giving those initiatives time to take hold and produce results.

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[49] Annual Report to Congress of the Secretary of Defense, Fiscal Year 1984, p. 26.

[50] Comments of Japan Machine Tool Builders' Association to the International Trade Commission, Competitive Assessment of the U.S. Metalworking Machine Tool Industry (No. 332-149), p. 38 (Feb. 3, 1983).

The description of U.S. machine tool companies' self-help initiatives that follows draws upon annual reports of publicly traded machine tool companies, personal interviews with executives of certain of the larger machine tool manufacturers, testimony of machine tool executives before the International Trade Commission on June 28, 1983, and letters from executives of 26 machine tool companies that represent a cross-section of the U.S. industry and its approaches to self-help.

Members of the American industry have made painful economic choices in face of the current recession, closing older plants and permanently reducing employment. Depending upon the amount of investment in modern production equipment that follows, these actions are the harbinger of either a highly productive and competitive domestic machine tool building industry, or one that is severely diminished.

As I said previously, the focus of Brown & Sharpe's machine tool self-help efforts have been decisions to concentrate research and development on particular niches, for example surface grinders, where we feel we have an especially good chance of maintaining future viability, and for which we have justifiably high hopes. We are still considering a similar strategy for other types of machine tools in which further R & D commitment would potentially hold rewards such as those we hope to obtain from surface grinders. But strapped as we are by economic conditions, we have not yet been able to make the type of research commitment that we feel would be necessary. Therefore, as for the foreseeable future, we envision ourselves holding the line by depending primarily on maintenance and quality in delivery, rather than broad ranging innovation.

A. Human Capital -- Labor Relations

Machine tool builders are trying to improve productivity through better motivation and training of employees. Some companies have instituted profit sharing programs and/or employee stock ownership plans to give their workers a direct stake in the companies' prospects. Other have emphasized improved training programs. Examples of such training programs include: (i) providing an opportunity for all workers to be trained in the use and programming of CNC equipment -- even if not required by their current jobs; (ii) increasing employee skill levels through use of "work centers," in which employees work together as a team, learning to operate all machines in the particular work center; (iii) reimbursing employees for the costs of any training or schooling completed outside the plant; and (iv) employing full time training managers to design and administer apprenticeship programs to allow upgrading of employee skills.

Many companies have instituted routine labor-management meetings. At such meetings, management briefs employees regarding capital spending plans, the financial condition of the company and the financial outlook. Candid discussions of this sort have been especially important during the current extreme recession. These meetings provide an opportunity for employees to discuss work-related problems and to question top management regarding a company's plans and prospects.

B. Capital Investment and Productivity

American machine tool builders realize the further modernization and automation of production facilities are required if they are to remain competitive. This realization is not belated; during the period 1976-1981, capital investment in the machine tool industry grew at twice the rate for all other manufacturing in the United States.[51] Although this rate of investment has been affected by the current deep recession in the industry, investment continues in the most sophisticated equipment such as flexible manufacturing systems and CAD/CAM.[52]

According to its 1982 annual report, Cincinnati Milacron spent $26.7 million to modernize its facilities through installation of flexible manufacturing systems and CAD/CAM. Additionally, the company budgeted $12.5 million to continue this modernization during 1983.

According to its 1982 annual report, the Monarch Machine Tool Company spent $4.0 million to add to its capacity in Sidney, Ohio, to build CNC vertical turning machines.[53] Another company is planning a $2.8 million technology center. According to B. Charles Ames,

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[51] Testimony of Nathaniel S. Howe before the International Trade Commission, June 28, 1983, p. 4.

[52] Id.

[53] Monarch 1982 Annual Report, p. 16.

President and Chief Executive Office of Acme-Cleveland Corporation, speaking at a December 1982 machine tool forum sponsored by Paine Webber, that company is constructing two new plants as a part of a $6.4 million program to increase productivity.

Many companies continue to invest in new machines, albeit at a reduced rate, in order to improve productivity, to increase the quality of their products and to shorten delivery times.

The Ingersoll Milling Machine Company recently received an award from the Society of Mechanical Engineers for its leading role in developing and installing computer-integrated manufacturing in its Rockford, Illinois plant.[54]

C. Research and Product Development

Given the rapid advances in technology that are affecting the industry and its customers, expenditures for research and development are the lifeblood of the machine tool business. To compete effectively in the domestic and export markets, the industry must retain the ability and the incentive to continue and increase its R & D expenditures. If the industry's sales and profits continue to decline, however, this will become impossible. The result will be a vicious circle in which declines in sales and profits will retard technological advances, causing further declines in sales and profits, with the cycle continuing until the industry has fallen irretrievably behind its foreign competitors. The risk that the domestic machine tool industry may thus be eclipsed by its foreign competition -- as other once-strong United States industries already have been -- has obvious importance for the national security.

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[54] Commline, the Journal of Computerized Manufacturing, May-June 1983, pp. 10-11. In addition, NMTBA has promoted, among its members, investment in and installation of manufacturing process improvements. For example, it recently sponsored a conference on "Manufacturing Management in Today's Economy" involving discussion of topics such as the use of flexible manufacturing systems, the potential of robotics for machine tool manufacturing, the rise of computer aided design and the costs and benefits of achieving better quality control.

Many companies have continued significant research and development expenditures, notwithstanding severe economic stringency. According to Laura Conigliaro, machine tool analyst for Prudential-Bache Securities, "a number of manufacturers have increased their research and product development budgets, despite slack sales and revenues, in order to be prepared for a rebound."[55]

Cincinnati Milacron has recently completed a $6.8 million research center at its Cincinnati headquarters.[56] Similarly, Ex-Cell-O Corporation has established a new technology center for machine tool research and development.[57] The Monarch Machine Tool Company is adding a new engineering development laboratory to its Sidney, Ohio facility,[58] and South Bend Lathe, Inc., has recently established an engineering group in its research division dedicated exclusively to product innovation.[59]

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[55] American Metal Market, June 13, 1983 at p. 9A (emphasis added).

[56] See Cincinnati Milacron 1981 Annual Report, p. 29.

[57] Ex-Cell-O 1982 Annual Report, p. 5.

[58] Monarch 1982 Annual Report, p. 21.

[59] Personal communication to Covington & Burling from J.R. Boulis, President of South Bend Lathe, Inc.

The results of commitments to R & D have been continued new product introductions during the recent and continuing machine tool recession. In addition, work is ongoing on product lines that will be introduced in the future. Cross & Trecker, for example, plans to introduce in 1984 a new generation of flexible manufacturing systems that will significantly advance the state-of-the-art.[60]

Notwithstanding allegations to the contrary, American machine tool producers are retaining a technological lead.[61] In the important growth field of flexible manufacturing systems (FMS), Americans' technological capabilities in machine tool manufacturing, component hardware and software and robotics, place American manufacturers in a good position for potential success. American computer numerically control (CNC) machine tools and technology are equal to or better than those made in Japan.[62]

D. Responsiveness to Customers

American machine tool builders have substantially increased their responsiveness to customers. Several companies have conducted extensive efforts to determine what innovations and adaptations will be needed to meet the needs of customers in the future. For example, Cross & Trecker Corporation has invested much of its engineering staff's time in learning the specifications of the machine tools and manufacturing systems that its customer industries anticipate requiring in the next decade and beyond.[63] Similar customer surveys allow companies with inventories to alter inventory levels on the basis of better market data.

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[60] Testimony of Richard T. Lindgren before the International Trade Commission, June 28, 1983, p. 3.

[61] Testimony of Richard T. Lindgren before the International Trade Commission on June 28, 1983, pp. 2-3.

[62] *Id.*, p. 6.

American companies have improved their delivery of spare parts to reduce the downtime of their machine tools on customer premises. Some companies have installed computer systems to handle spare parts orders and now can ship spare parts within 24 hours of client orders. Similarly, some companies have built diagnostic systems into their machine tools that permit immediate telephonic communication of the source of the malfunction from the machine to the companies' engineering staffs.

Many companies now run regular customer training schools on programming and maintenance of the machine tools that they produce. Cross & Trecker has developed detailed seminars for customers on the advantages of flexible manufacturing systems, and a team of Cross & Trecker representatives has given such seminars to customer companies.[64] In addition, many companies have established financial subsidiaries that enable their operating units to offer both installment and lease financing at highly competitive rates.[65]

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[63] Testimony of Richard T. Lindgren before the International Trade Commission, June 28, 1983, p. 3.

[64] Id. at 6.

[65] Id. at 7.

Most companies have increased their efforts at quality control. Suppliers are held to stricter quality standards. The number of quality checks during construction, and the comprehensiveness of checks during the testing of completed machines, have been increased. Some companies offer incentive to employees for meeting quality goals. Some have programs to follow the performance of a machine tool after it has been installed on a customer's premises.

All companies recognize that lead times must be kept reasonably short, and much shorter than they became in 1980-81. To that end, some companies have begun to produce machine tools for inventory.

E. Aggressive Domestic Marketing

Increasingly, companies are making heavy commitments of their engineers' and other employees' time to explain the vast potential of modern machine tools, especially in FMS applications for each customer's specific needs. Because FMS requires a dramatically new approach to manufacturing operations, this is nothing less than a serious effort at proselytizing the companies that account for much of the United States' industrial base, in an effort to persuade them of the net benefit of investing in highly productive and flexible applications of modern machine tools. In the past year, the senior executives of a significant number of machine tool companies have undertaken this effort, in the hope that it will produce new orders at the end of the recession.

So that both their sales and service staffs will be closer to customers, some of the larger U.S. machine tool companies that do not sell through distributors are opening large regional centers in major metropolitan areas. Cincinnati Milacron, for example, will open its fifth regional sales and service center this year.

F. Export Promotion

In light of the current levels of import penetration in American machine tool markets, expanding exports of American-manufactured machine tools is more important than ever. Moreover, the February 1983 report of the Machine Tool Panel of the National Academy of Engineering regarding the machine tool industry recommends strengthening export performance by the industry. A number of the attached communications from individual companies affirm the industry's recognition of the importance of export efforts. Some have recently employed foreign marketing experts and have exhibited at overseas machine tool shows. Others have signed on additional foreign distributors and have spent significant amounts to educate those distributors about the merits of their products.

The NMTBA emphasizes assistance to its members in securing export market opportunities. It maintains an international trade department; conducts international market research; sponsors expositions on behalf of the industry at foreign machine tool shows; and brings large groups of foreign visitors to the International Machine Tool Show sponsored every two years by NMTBA. Three professional trade specialists employed by the Association spend all their time either traveling overseas to promote United States machine tool products, conducting workshops to train member companies how to deal with the complexities of international trade, or consulting informally with company representatives about foreign business opportunities.

NMTBA collaborates with the Department of Commerce in conducting export seminars to educate United States manufacturers on export opportunities and techniques. The Association recently sponsored a seminar for machine tool industry members regarding the Export Trading Company Act of 1983. In 1982, the Association sponsored the most expansive machine tool show ever held in Mexico and in March 1983, conducted the first formal exposition of American machine tools ever held in the Peoples' Republic of China.[66] Based upon the success of this effort, a second exposition is planned for Shanghai in 1985.

Notwithstanding the high priority accorded to export promotion by the Association and many of its members, there are serious impediments to increasing United States exports that are beyond the control of the industry. As summarized in the recent testimony of Mr. Lustgarten,[67] these impediments include the competitive disadvantage suffered by United States firms because of the strength of the U.S. dollar in relation to foreign currencies and the trend of foreign countries to close their markets to U.S. builders through various nontariff policies. As reported by Mr. Lustgarten, "[n]ationalization and/or consolidation efforts are underway in France, Spain, U.K.

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[66] The vigorous efforts of the NMTBA to assist its members in obtaining export sales are elaborated in the testimony of James A. Gray, President of the NMTBA, before the International Trade Commission on June 28, 1983, at pp. 3-5.

[67] Statement by Eli S. Lustgarten, July 26, 1983, p. 5.

and several other European countries, effectively closing the markets to U.S. builders."[68]

Moreover, a major potential market, Eastern Europe and Russia, has been effectively closed to U.S. builders by stringent and sometimes capricious export control policies of the United States. Records of the Department of Commerce show that in 1982, the Soviet Union imported $960 million worth of machine tools.[69] Of this amount, only $1.3 million worth -- comprising 12 machines -- was supplied from the United States.

Thus, while the desirability of expanding U.S. exports of machine tools remains indisputable, this goal is increasingly difficult to accomplish. Nevertheless, members of the U.S. industry will continue to strive for export sales wherever serious economic and political obstacles can be overcome.

G. Personnel and Facilities Retrenchment

A necessary and difficult part of the industry's efforts to help itself in the last two years has been retrenchment. In order to minimize losses in the current economic climate, many companies have been forced to reduce employment. For instance, Acme-Cleveland's employment has fallen from 6,300 at the end of 1980 to 2,500 at the end of April 1983.[70] As part of their efforts to consolidate operations and to continue automation, Cross & Trecker has reduced employment from 4,600 to 2,600 and the company plans to operate in a less labor-intensive mode once the economy recovers.[71] Gleason Works has recently reduced its workforce from 4,800 to 3,900 and has lowered employee compensation.[72] Other companies, have frozen salaries, reduced fringe benefits, eliminated overtime and shortened work schedules.

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[68] Id. Specifically, Ingersoll Milling Machine Company has complained of exclusion of American machine tools from French markets.

[69] Department of Commerce, Export Report, Series EM-522 (1982).

[70] Testimony of W. Paul Cooper before the International Trade Commission on June 28, 1983, p. 5.

Similarly, companies have been seeking to improve productivity by closing or attempting to dispose of marginal manufacturing facilities. For example, Ex-Cell-O Corporation has closed or consolidated excess or marginal operations so that the identifiable assets of its industrial equipment segment declined from $258 million in 1980 to $158 million in 1982[73]

VI. THE U.S. MACHINE TOOL INDUSTRY'S INITIATIVES TO HELP ITSELF ARE NECESSARY BUT NOT SUFFICIENT TO PRESERVE THE INDUSTRY'S STRENGTH

The self-help efforts already underway to reinvigorate the industry offer ample proof that machine tool builders have the will, drive and determination to undertake the steps necessary to restore the health of this critical industry. However, because of the depth of the current recession and the scope of recent import penetration, the industry vitally needs the temporary import relief requested in

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[71] Testimony of Richard T. Lindgren before the International Trade Commission, June 28, 1983, p. 5.

[72] Gleason Works 1982 Annual Report.

[73] Ex-Cell-O 1982 Annual Report at pp. 4, 14.

NMTBA's Section 232 petition. The quota relief requested by NMTBA would strengthen the support of shareholders and capital markets to allow the necessary sustained commitments of capital.

Achievement and maintenance of a strong competitive status in world markets, which is the goal of the self-help initiatives described above, will not be easy. U.S. manufacturers begin with the handicaps of substantially greater overall labor costs, greater costs associated with occupational safety regulations and product liability insurance, high real and nominal domestic interest rates and depreciated foreign currencies that favor imports and discourage exports. Factory automation and more effective marketing nonetheless require substantial investment at the same time that investment in research and development efforts is being increased.

The core of the industry's self-help initiatives is the investment of money. Especially in the circumstance of the continuing recession of the machine tool industry, realizing results from these initiatives will take time and a high level of risk. Results will take time to the extent the industry finances its capital investments with retained earnings.[74]

To counteract the unprecedented threat to its vitality from imports, however, the industry is ready to obtain or commit, to the extent of its ability, substantial resources from sources other than retained earnings for the needed investment, notwithstanding the high level of risk involved. The requested relief would significantly reduce the perceived risk of investment by providing assurance that the juggernaut of foreign imports will be slowed. The relief, combined with the industry's self-help efforts, will also give assurance to the engineers and other employees who are crucial to the U.S. industry's research and development and marketing strategies.

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[74] This is the industry's conventional approach in light of its severe cycles. To do otherwise would increase, in the amount of debt service, the level of sales that a firm must surpass to make a profit, with the result that the firm's financial position might become precarious when deep troughs in the business cycle occur.

It is said by some that the problems of the American machine tool industry are the industry's own doing and that it would be counterproductive to grant the requested relief because such a grant would lead the U.S. industry to complacency and retrogression to old and failed ways. NMTBA emphatically rejects this contention. A grant of the requested relief is a necessary complement of the industry's self-help efforts that will make a very substantial and a very positive difference in the future strength of the U.S. machine tool building industry. The industry realizes that it will need to make the most of every day during the relief period to improve its competitiveness.

Moreover, while the U.S. industry has readily acknowledged that it can improve itself by studying sophisticated contemporary management and production procedures, and with vigor and commitment it has begun to implement applicable changes, the previous absence of those procedures in the U.S. industry is clearly not the only, and is probably not the primary, reason for its current difficulties.

According to the recent study of the machine tool industry by the National Academy of Engineering, "the relatively slow growth in the American economy in recent years cannot be ignored as a major factor governing the condition of the U.S. machine tool industry."[75] Moreover, "Japan, West Germany, France, Italy and the United Kingdom all feature more extensive government participation in the support and direction of their machine tool industries,"[76] and many foreign machine tool industries enjoy "aggressive government support . . . to help [them] capture world markets."[77] "[P]roduct liability and safety regulations have a particularly severe impact upon the [U.S.] machine tool industry . . .,"[78] including "dampen[ing] the adoption of new innovations within the machine tool industry and among its customers."[79] Moreover, "government export policy in general has not been particularly helpful in overcoming obstacles to trade."[80] To protect the national security, U.S. machine tool builders have been prohibited from participating in the very large markets for machine tools in communist countries at the same time that Western European and Japanese manufacturers have exported to those markets without significant restrictions. Recently, the relative strength of the

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[75] National Academy of Engineering, The Competitive Status of the U.S. Machine Tool Industry, p. 58 (1983).

[76] _Id_. at 27.

[77] _Id_. at 41.

[78] _Id_. at 45.

[79] _Id_. at 71.

[80] _Id_. at 44.

U.S. dollar and stringent import controls in financially embarrassed nations such as Mexico have depressed exports, while high interest rates have contributed to the depression of domestic machine tool demand.

The extraordinarily high level of U.S. demand for machine tools in the late 1970's and the resulting large backlogs of U.S. producers, which gave the Japanese a substantial boost in the U.S. market, arose from the effects of oil supply disruptions and the consequent U.S. policies regarding, among other things, automobile and airplane design and domestic oil production.[81] Because these effects were impossible to predict, the U.S. industry cannot be seriously faulted for its inability, in spite of substantial capacity expansions,[82] to meet all of that demand.

There is no doubt that the companies in the U.S. machine tool industry will face strong and healthy competition during the relief period if the relief is granted. In the present circumstances of the industry, unrestricted competition from imports during this period would debilitate, not rejuvenate, the industry. As Professor Paul W. McCracken of the University of Michigan and formerly chairman of the Council of Economic Advisers under President Nixon remarked:

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[81] See Testimony of W. Paul Cooper before the International Trade Commission, June 28, 1983, pp. 6-7.

[82] "In the face of rapidly increasing demand, machine tool builders increased capital spending by 57 percent in 1979." _Id_. at 49.

> "[T]here *is* national security dimension to trade policy. Most of us are programmed to be suspicious of the national security argument. It's often an early argument for protection invoked by domestic industries under pressure from foreign competition. ... *If Japanese competitive pressure forces [American industries] to be more aggressive, productive, innovative and quality-conscious, the U.S. civilian and national security needs are both well served. If foreign competition, however, goes beyond this, how far is it prudent for national security reasons to see these industries reduced?* ... This is an uncertain and insecure world; national security is indeed a legitimate issue."[83]

The broad issue is the West's defense against, and the deterrence of, attack by an increasingly formidable and demonstrably expansionist Soviet Bloc -- with which this nation pursues a policy of extremely restricted trade. The specific issue is whether the West can afford the displacement of machine tool production capacity from the relatively secure United States to Japan, which has no serious self-defense capability, or Western Europe, whose machine tool factories and transportation facilities may be isolated as a result of NATO's forward defense of a Western European invasion by the Warsaw Pact.

The National Security Clause is consistent with this nation's faith since World War II that the world's prosperity, and thus world peace, are likely to be strengthened by promoting nations' different comparative advantages through free international trade. Far from being an anomaly, the National Security Clause recognizes the limitations that have always attached to that faith. War can destroy international trade and the prosperity it may bring; and, in maintaining the requisite national capacity to deter war, a nation's primary objective is security and defense, not prosperity. If the United States did not face the threat of war, there would not be justification for the Clause, and if the United States and its allies were not threatened by the massively armed Soviet Union, NMTBA'S Section 232 Petition would not have a basis.

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[83] *The Wall Street Journal*, June 25, 1982, p. 18 (emphasis in original in part and supplied in part).

But the threat of war between the Soviet Union and the industrialized democracies exists, and the National Security Clause requires the Government to follow an international trade policy that meets and deters this threat prudently.

Questions have been raised regarding the relief requested by the industry. Specifically, some have asked if there are not ways by which the federal government can restore and maintain the health of the domestic machine tool industry without quotas or tariffs. Others have queried as to why not to delay action on the Section 232 Petition to see whether the general economic recovery will cure the problems of the machine tool industry.

NMTBA has requested quota relief to provide a stable and predictable environment in which the domestic machine tool industry can maintain and increase investment in capital equipment and technology. Such stability and predictability depend crucially on an ability to anticipate import levels and thereby to plan investment during the relief period. Tariffs, for example, in contrast to quotas, cannot provide this kind of predictability. Foreign manufacturers enjoy various forms of subsidization, and their governments may assist them "to jump" any but the most prohibitive tariff barriers the United States might choose to impose. Even if the world were free of such subsidization, the current disequilibrium in exchange rates makes the effect of a tariff at any given level highly uncertain. A further strengthening of the dollar could effectively diminish a tariff. A weakening of the dollar, could, conversely, cause an effective increase of the tariff to a level that was prohibitive and would constrain imports more than quotas.

It is also likely that tariffs would have greater inflationary impact on the United States economy than would quotas. A tariff would affect the prices of all tools imported into the United States; whereas, the quotas we have requested would only affect prices in machine tool lines where imports currently exceed the quota limit. While it is likely that imposition of the quotas we have requested will have some price effect, Data Resources, Inc., (DRI) has estimated that they will not result in a greater than 2 percent increase in the prices of machine tools in any given year during the restraint period. The principal factor that will hold prices down is the robust competition between domestic producers in this highly competitive industry.

During the past year government officials have suggested that, while machine tools are important to the national security, the Administration would prefer to aid the industry by means other than imposition of import restraints. These officials have suggested such steps as increased federal funding for educational programs dealing with manufacturing engineering, increased federal R&D expenditures for machine tool and manufacturing research, streamlining of export licensing procedures, changes to the Internal Revenue Code to stimulate greater capital investment, better export/import financing, and trade adjustment assistance.

The machine tool industry appreciates this recognition of its importance to the nation's security and it would, of course, welcome all reasonable federal efforts that might help restore and maintain its vigor. Nevertheless, it is apparent that none of these suggested alternative forms of assistance to the industry is an adequate substitute for quantitative restriction of imports.

Nearly all the suggested alternatives would require new budget authority or new tax expenditures at a time of growing national preoccupation with the huge federal deficit. Some would require extensive legislative or rulemaking actions. None would provide timely or comprehensive relief for the badly beleaguered machine tool industry. Individually or in combination these other forms of assistance cannot and would not create the kind of economic environment or degree of predictability that DRI believes is required for new investment in machine tool manufacturing necessary to maintain the nation's security.

Some observers also suggest that, as the recovery continues, machine tool builders will participate, and the need for import relief will be eliminated. Some even contend that machine tool builders are already enjoying the fruits of recovery. We believe our earlier recital of the current economic posture of the industry should dispell any such false ideas.

In light of the continuing severe depression in the industry and the continued growth in market share enjoyed by imports, domestic manufacturers are engaged in a process of closing and dismantling United States machine tool manufacturing facilities. Many will base future economic decisionmaking on the President's decision with respect to the 232 Petition. A conscious choice by the President to delay action will add impetus to the current trend of disinvestment by the domestic industry.

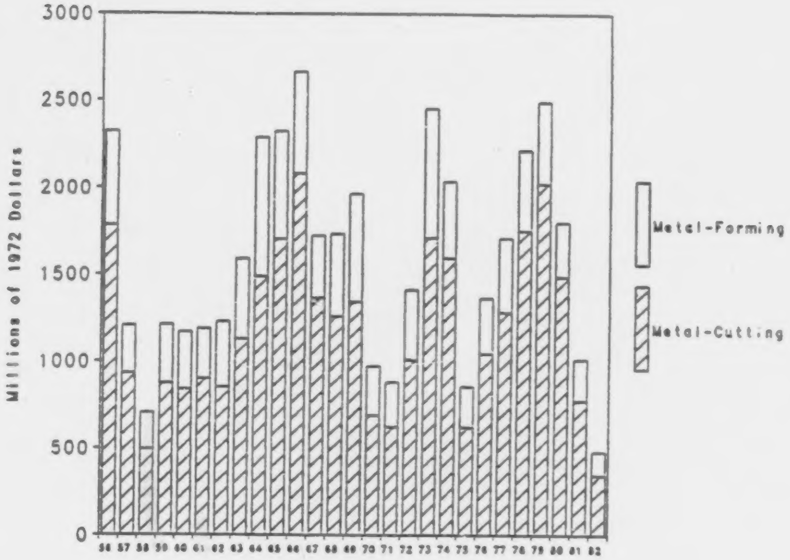
VII. CONCLUSION

Sophisticated production processes, and sophisticated weapon systems, require a domestic machine tool industry that is at least equal to the world's best. As imports continue to rise, the U.S. machine tool industry -- long the world leader -- is in danger of losing its technological advantage as well as its production capacity. NMTBA submits, therefore, that under Section 232, action must be taken to adjust the level of imports so that the U. S. machine tool industry can regain its competitive edge, thereby reducing the current threat to our national security.

A vibrant U.S. machine tool industry is vital to the economic health of our nation. More importantly, the machine tool industry plays a strategic role in determining this country's ability to respond in the event of a national emergency and our ability to deter aggression. Thus, when we talk about the "survival" of this industry, nothing less than our national security is at stake.

Figure 1

Net New Orders for Machine Tools
Received by U. S. Builders
(1972 Dollars)
1956-82

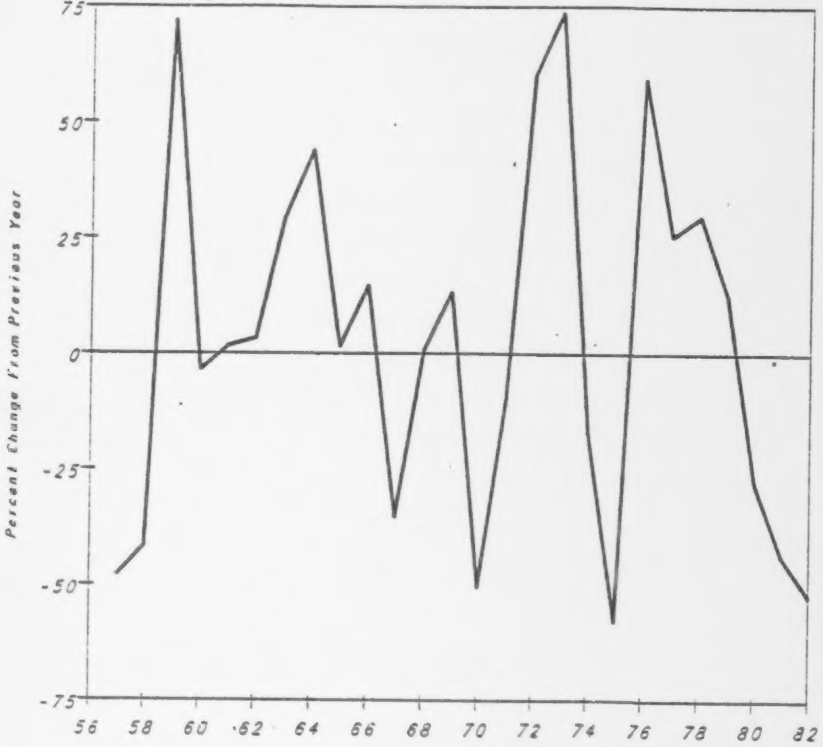


Source: NMTBA 'Economic Handbook of the Machine Tool Industry, 1982-83' and NMTBA 'Industry Estimate of Machine Tool New Orders, Cancellations, Shipments and Backlog' (monthly).

Adjusted using Bureau of Labor Statistics (BLS), U. S. Department of Labor, Producer Price Index for respective sector, re-based to 1972=1.00.

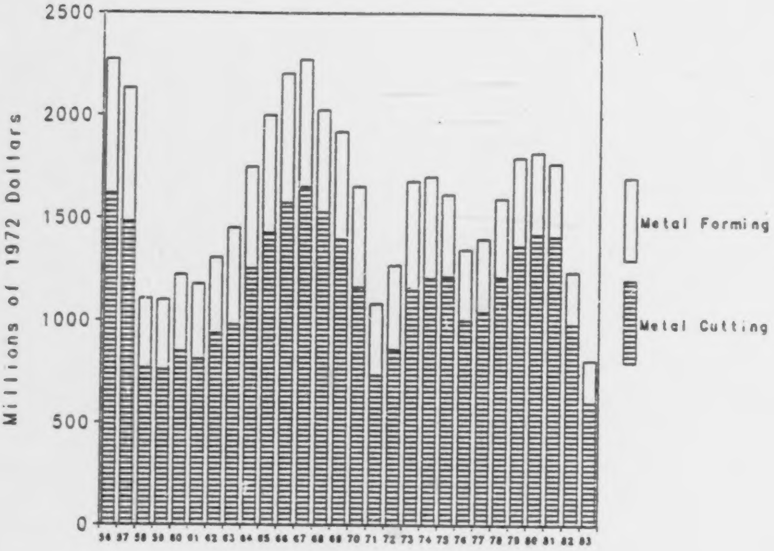
Figure 2

Year-to-Year Change in
Real Net New Orders of Machine Tools
1957-1982



Source: NMTBA 'Economic Handbook of the Machine Tool Industry, 1982-83' and NMTBA 'Industry Estimate of New Orders, Cancellations, Shipments and Backlog' (monthly).

Figure 3



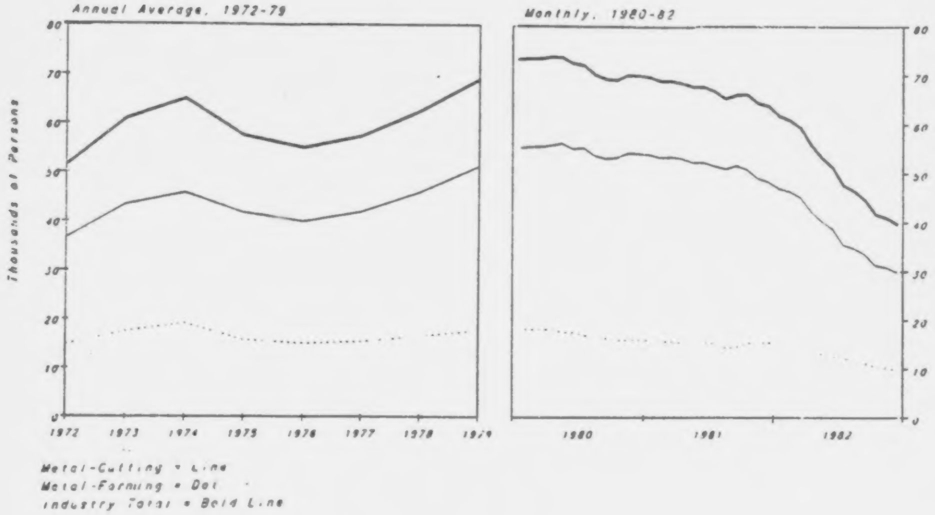
Shipments of Machine Tools
by U. S. Builders
(1972 Dollars)
1956-83 (a,b)

Source: U. S. Department of Commerce, 'Current Industrial Reports, Series MQ-35W, Metalworking Machinery.' Adjusted using BLS Producer Price Index for respective sector, re-based to 1972=1.00

(a) 1982 estimated using 3rd quarter figures for 4th quarter.
(b) 1983 forecast based on '1983 U. S. Industrial Outlook', U. S. Department of Commerce (1983).

Figure 4

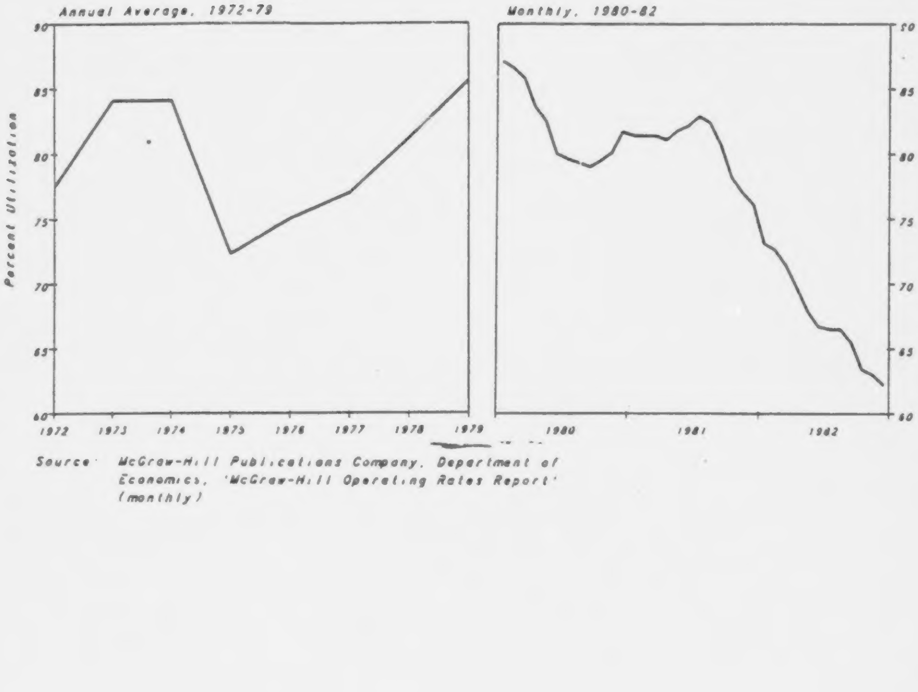
Employment of Production Workers
in the Machine Tool Industry
(Thousands of Persons)
1972-82



Source   U. S. Department of Labor, Bureau of Labor Statistics, 'Employment and Earnings' (monthly)

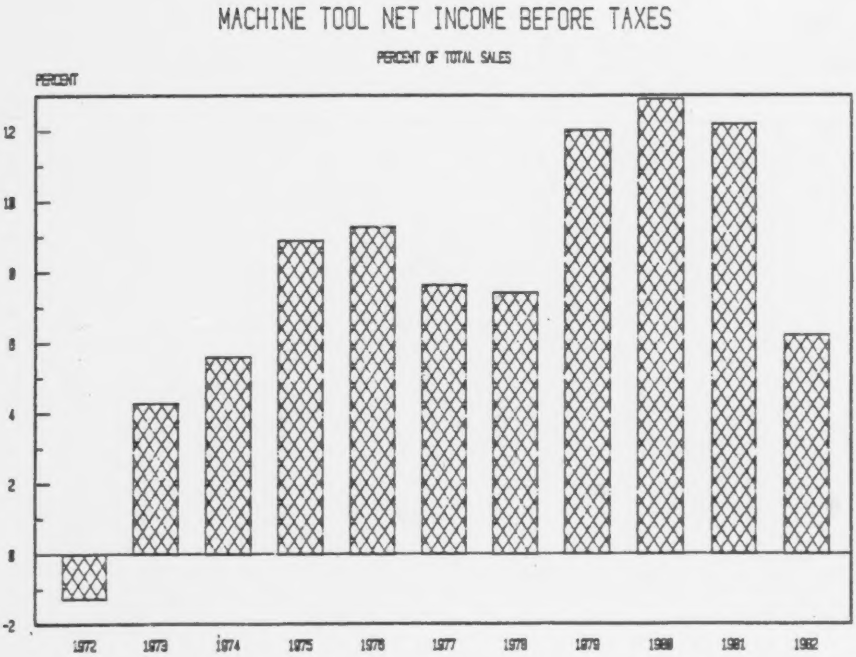
Figure 5

Capacity Utilization
in the Nonelectrical Machinery Industry
1972-82



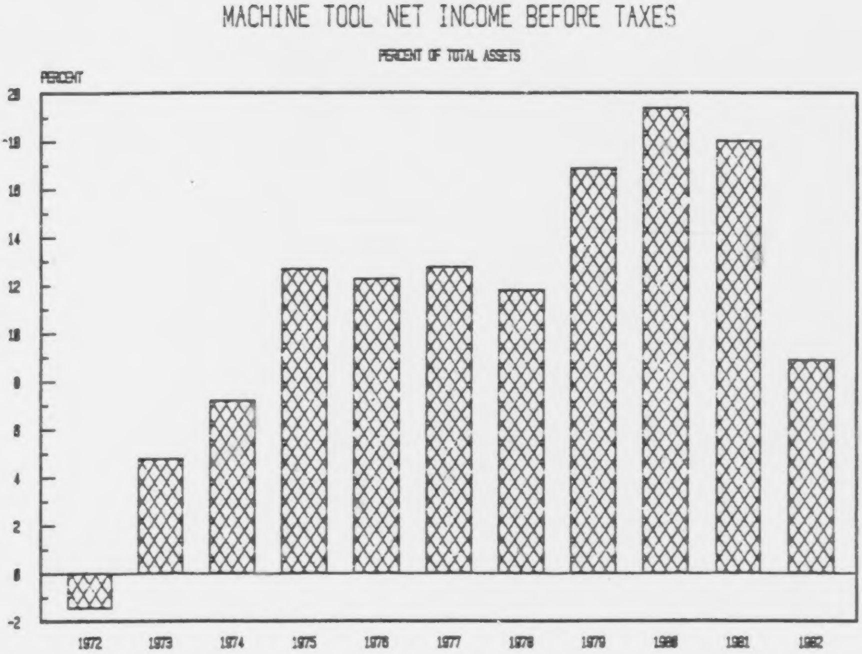
Source: McGraw-Hill Publications Company, Department of Economics, 'McGraw-Hill Operating Rates Report' (monthly)

Figure 6



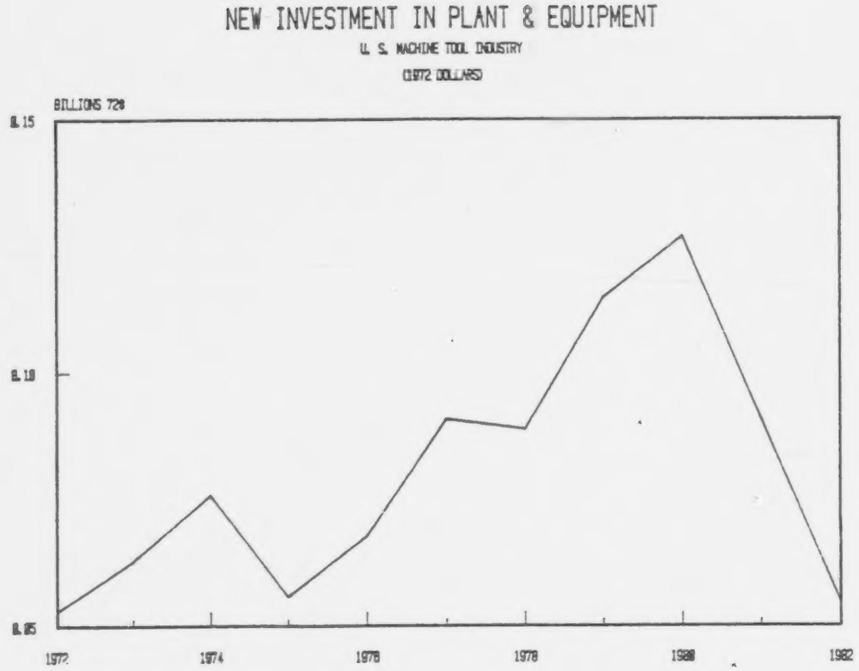
SOURCE: NMTBA "Economic Handbook of the Machine Tool Industry 1982-83," p. 255; 1982 projection by Data Resources, Inc. (1983).

Figure 7



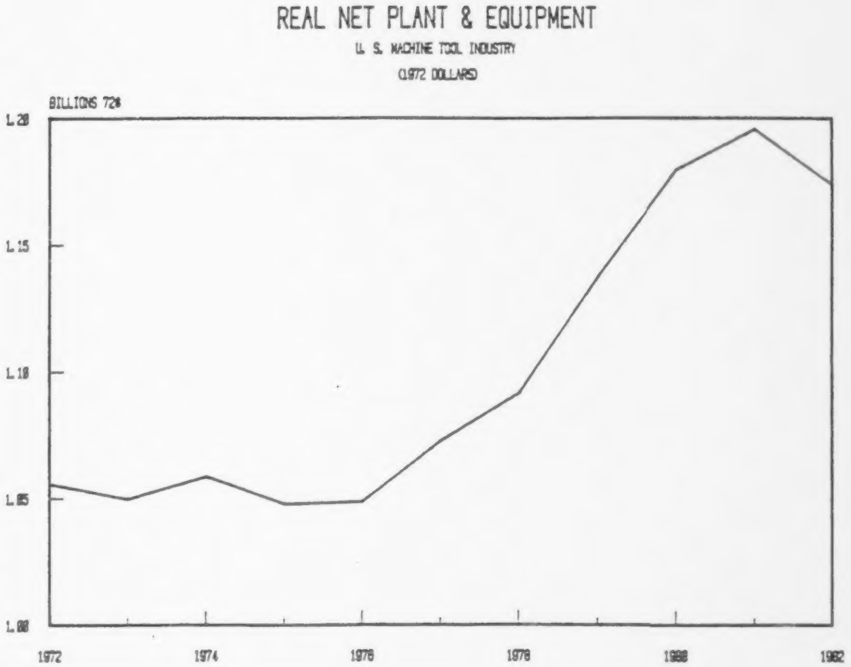
SOURCE: NMTBA "Economic Handbook of the Machine Tool Industry 1982-83," p. 255; 1982 projection by Data Resources, Inc. (1983).

Figure 8



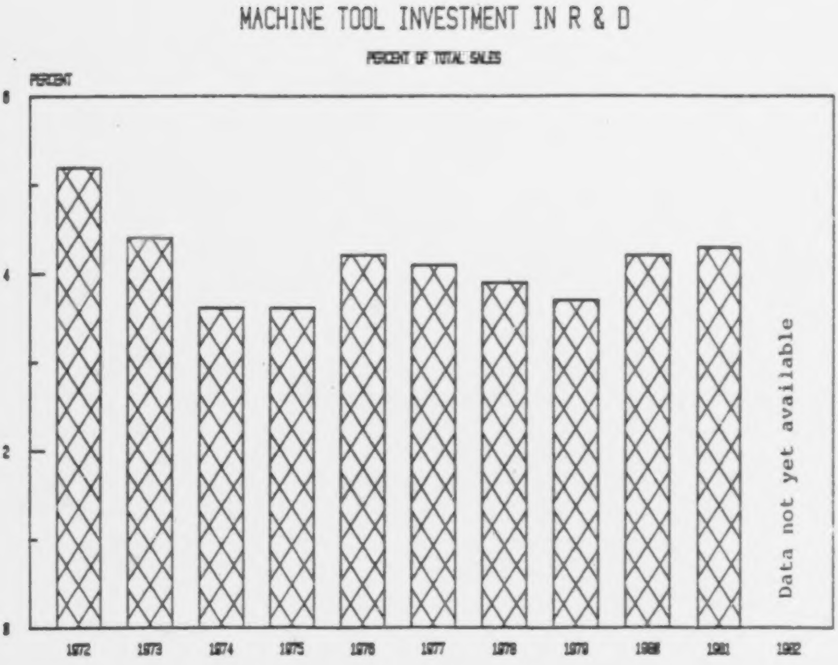
SOURCE: Data Resources, Inc. (1983).

Figure 9



SOURCE: Data Resources, Inc. (1983).

Figure 10



SOURCE: National Machine Tool Builders' Association, "Confidential Financial & Operating Ratio Report."

Mr. **Sharpe**. Gentlemen, I recognize that this is an extremely balanced issue. As a lifelong protagonist of free trade, it pains me to appear here before you seeking, hat in hand, a variety of protections, but I am convinced from my experiences in the Korean war, and from my knowledge of what happened to this country during World War I and World War II, that the U.S. machine-tool industry, vitally able to produce within our shores, is an absolutely necessary concomitant to our ability to maintain any kind of a defense base, and I can come to you today resolving my inner conflicts and recognizing that in this particular case I think the Nation would be well advised to take particular care.

Thank you.

Mr. **Luken**. As has been indicated, Mr. Mack may want to elaborate. Why don't we do that during the questioning.

Mr. Gonzalez.

Mr. **Gonzalez**. Well, thank you, Mr. Chairman.

I want to thank our witnesses here very much and also for their enterprise in pursuing through legal means—which of course must be very expensive—that which should be.

I was here, as I said earlier, when we had the debate on the GATT, and I raised the question of one section that intrigued me, and that was why this particular section was in the bill that had to do with the eventuality of violations of the general agreements and so called dumping, and the debate, and everything that was said, and everything that was presented—you would have never thought your case would happen, that you would be in the dilemma that you find yourselves in.

So you know, I realize that what you can do—I deplore the fact that you had to. I don't think any American man should have been placed in a position of having to do that through his own limited resources, particularly legal expenses, when that should have been a public issue, publicly addressed by the Government.

So I hope that you will be successful here. I think every one of us present this morning agrees with you that we have believed in free trade; we still believe in free trade.

My fear was in 1962, and has continued to be in the interim period, that what was passing for what we defend as free trade was changing, and that the changes were not being analyzed, and that what the result might be, as it has turned out to be, was other than our defined free trade environment.

So under those circumstances, and the slowness of the democratic process, I can realize the difficulty.

What I have never understood is that at this point, I think we are in a definite crisis, not from the standpoint of weaponry necessarily. After all, if a people either are not prepared or do not have the will for conflict, or the ability in case of defense, it matters very little anything else, no matter what sophisticated weaponry you have.

I say that anybody that has closely studied our societal development, particularly since the middle 1960's, should be well aware that we are very brittle, and that the social cohesion is just not there.

For instance, there isn't any reason why your company should not be expanding in order to meet just the domestic needs of keep-ing up the level of need in our infrastructure. That is a fancy word that I always hesitate to use, but to me it is a very critical word. It is collapsing around our ears.

There isn't any reason why every engineer, every laborer, skilled, unskilled, union, nonunion, shouldn't be fully employed at this time just taking care of meeting our minimal infrastructure needs.

Our streets are collapsing; you have the case of a city in New Jersey that its complete water supply went under, creating a crisis, temporarily resolved but not permanently.

Why? Because our allocations of attention, priority, are just simply not there, so that what you are facing is a concomitant of whatever other section of our society is facing, and unless we address it from the overall buyer's eye concept of the nature of the complex problem, I don't think we will have even piecemeal favorable results.

Just one question I was going to ask. You do state that your association represents a bulk of small business enterprises. Can any of your small businesses, including yours, inventory—keep up, if you must pay anywhere from 18 to 20 percent interest on your line of credit?

Mr. **Sharpe**. Well, Congressman, obviously high interest rates are something that give us a great deal of concern. We look at the recent trends of interest rates inching up again with trepidation because we recognize that when interest rates get up higher than they are at the present time, the throttle valve of new capital equipment does close.

Mr. **Gonzalez**. That is right.

Mr. **Sharpe**. Perhaps unlike you, we are not quite sure what to do about it. The circumstance we hope doesn't develop.

Mr. **Gonzalez**. Don't get me wrong; I don't claim to have the complete answer.

Mr. **Sharpe**. I wish we did.

Mr. **Gonzalez**. I have suggested on the record for 18 to 20 years, some things that I felt the Congress had responsibility through the leadership of the committee that I belong to, the Banking Committee; that is where I have been all along. I tried to convince a couple of Presidents.

Incidentally, my efforts even with the one I had the closest personal relationship with, the first one, John Kennedy—I didn't vote for his GATT bill. That caused his special advisers and lobbyist a great deal of concern because I came up in the middle of the 87th Congress, and that was the first big issue that hit that second session, and they thought surely that I would be supportive, but I couldn't because they never answered my question with respect to that section.

Obviously, it was anticipated there would be in the long run some adverse impact on our industrial capacity, and like in many of these other so-called deregulatory measures, you will find that there is a—they will say all this is for the good of the industry, but you will always find a section that says, "However, we want to create a commission to study the adverse impact and what to do about it with those industries that will suffer as a result of this."

You know who it is going to be; that is going to be the little guy. You can't put a heavy flyweight in the ring with a heavyweight and expect the flyweight to knock out the heavyweight.

What I am saying, unless you have some kind of accessibility to your credit resources, there is no way that I know, that in a structured competitive society such as ours, you can stay alive. There is no way that it can be done at 18, 19, 20 percent, and this is what the small businessman is.

I know in my district, the small businessman who wants to get a commercial loan of just $1,500, he is not going to get it for less than 18 percent. There is no way—no way—that man can survive, because it is just not possible.

What I am saying is that as much as we know that you are fighting the case very nobly, but also taxing your resources—instead of having to expend and allocate your resources on legal fees and what-not, you should be spared that in order to compete with the competition in the tool manufacturing.

Mr. **Sharpe**. Let me try to summarize my reaction to the point that I think you are trying to make by saying that, whereas on the one hand I would dearly wish that somehow credit were available for the purpose of supporting the manufacture of our kind of products at the rates you suggest—and I agree that it would stimulate refurbishment of American industry on the other hand, I have an enormous trepidation about the ultimate wisdom of those "great allocators" who would have to make those decisions. I don't know how to reconcile those two.

Maybe somebody some day will be able to persuade me that someone is wise enough to make such decisions. So far, I have rather tended to cleave personally to the idea that, vicious as it may be, market forces at least are anonymous; there is no commissar that has to be taken out and beheaded when he makes the wrong decision.

Mr. **Gonzalez**. That was the fundamental question confronting the folks at the beginning of our existence as a national entity, and the question was, who is going to make that decision. They decided; Jefferson spoke very eloquently on it. You know who, the people—the people. They had enough trust. They had enough trust to feel that they weren't going to turn it over to the special category or class in society that wanted that power, and has always wanted it, and has also tried for it, and now has it, and has it for a few years.

But if it is not contractable to the people, and we don't have the trust, then there is no use debating; we will do like the class structured societies in Europe.

Mr. **Sharpe**. Allocation of resources implies removing that allocation from the people. I say the people is the same as market force; that is what worries me.

Mr. **Gonzalez**. Let me try. I know it is difficult to make the point, and I'm not the best, but if the decisionmakers that you refer to do not have representation of your level of business in that decisionmaking process, the allocation is going to go where it is now, where you have the struggle for merger—Exxon, Occidental tying up anywhere from $35 to $50 billion worth of just banking resources, banking allocations.

Those are nonproductive ventures. They don't add one job. They don't produce one good. Yet they are tying that tremendous allocation of credit, banking credit, that was intended—you know, banks are not divine institutions; their charters are issued on the basis of public need, necessity, and convenience, public—this was the issue in the beginning of our Nation; it was the issue during the first and second national banks; it was the issue when President Lincoln died; that was uppermost in the mind; and it was after he died that we had the National Currency Act of 1865, that for the first time removed and since has removed any kind of control on usurious interest rates.

If we accept the fact that interest rates are an act of God, there is no discussion. If we say that only a select, all-wise, knowing group can be allocators of that and then forsake our trust as the first words of the Constitution—the first words of the Constitution are, "We, the people of the United States." It doesn't say, "We, the Congress;" doesn't say, "the President;" says, "We, the people;" that is the origin of power.

If we lose that faith and think well, the people aren't smart through their representatives and their elected executive, to say where that allocation should be, we might as well forget it.

Mr. LUKEN. Thank you very much, Mr. Gonzalez.

We are going to call on you, Mr. Mack, I believe, in reference to the current developments.

Mr. MACK. There was a question earlier about the story that appeared in this morning's Washington Post. As Mr. Sharpe indicated, there is some question about one statement that was made in the story.

He is referring to a statement that appears in the sixth paragraph which said, "Baldrige's recommendation would ban 90 percent of all imports and effectively eliminate most Japanese machine tools from the U.S. market."

As Mr. Sharpe indicated, that is not what we asked for. What the author of the article may have had reference to is the fact that in certain categories of machine tool imports, specifically machining centers and lathes, the Japanese share of that import penetration is 90 percent.

What we asked for in our petition was that imports' percentage of market share be reduced from whatever level it is to a level of 20 percent and that overall the import level be reduced from the current 36 percent to a level of 17.5 percent. The effect of this would, in the view of DRI, who created the economic model upon which our petition is based, enable prudent investors to make the kind of investment in the industry that would build or maintain domestic machine tool production capacity to a level that would be something upon which the defense base could be built—if we should, God forbid, get into a national emergency.

There has been talk today about the national security in the larger sense. It strikes us that if we put the machine tool industry and therefore the defense base, which relies upon this industry as its core, in a position where domestic sources are not available: That our capacity for deterrence is severely compromised.

Mr. LUKEN. In that connection, I would like to ask unanimous consent to introduce a New York Times editorial dated December

12, 1983, which is typical of editorials that appear in publications like the Times and the Washington Post.

The inconsistency in this area, I think, is so glaring. The editorial caption is, "The Machine Tool Behind the Gun."

In the second paragraph they say, "But the issue is not really national security. It comes down to unacceptable protectionism." That is what the editorial says; that is the conclusion.

I will introduce it without objection—it will be introduced—so that anyone can read it and test that statement of mine. There is not one word to support this conclusion that it is not national security.

As a matter of fact, when we get down to the end, whereas the New York Times editorial inveighs against what the machine tool industry in the United States is proposing as protectionism, here is what the editorial says in support of the Sciences, "The academy recommends a more systematic Federal involvement including subsidies for joint research and the diffusion of new technology."

So the New York Times says that it would be protectionism to adopt any kind of quota, but it is not protectionism for the U.S. Government to subsidize the machine tool industry. In other words, it wouldn't be, as they are concerned, the consumer who pays but the taxpayer who is going to pay.

Of course what we are considering, and will be with the next witness, is the practice of the Japanese Government in doing just the same kind of objectionable thing that these free traders in their own editorial say we should do here in this country.

[The editorial referred to above follows:]

[From the New York Times, Dec. 12, 1983]

The Machine Tool Behind the Gun

Machine tools are not really tools but sophisticated equipment, sometimes computer-controlled, for making everything from jam jars to jumbo jets. Because they are integral to industry, one should pay heed when producers say foreign competition threatens the national security. They want machine tool imports cut by about half, to 17.5 percent of the American market.

But the issue is not really national security. It comes down to unacceptable protectionism.

•

High-tech machine tools are indeed needed to make weapons. And American buyers are indeed turning to foreign suppliers. Machine tools are also important for the technological innovation they inspire in other industries; they have long led manufacturing in the growth of productivity. The rise of Japanese machine tools, at the expense of American and European producers, should be worrisome even if it had no security implications.

But the National Academy of Sciences has advised the Pentagon that the shift in tooling occurred because the domestic industry failed to produce the best equipment at the lowest prices. It therefore strains common sense to argue that protection would speed modernization of what the Academy delicately calls an "aging, mature" industry.

Domestic toolmakers have barely pulled out of a steep slump that began in 1980. They will never recover fully, they argue, unless protected against Japan. They tried to block those imports on the ground that they are subsidized. Only when that failed did the toolmakers invoke national security. Without protection, they argue, America would be dependent on foreigners in any lengthy war.

Yet even at the depth of the recent recession, America's machine tool production greatly exceeded its output in the mid-1970's. Unless sales fall still more sharply, the industry's wartime capacity remains strong. In any case, wartime self-sufficiency is a distraction from the broader issue: how to maintain a machine tool industry that will keep up with advanced technology.

The Science Academy concluded that American sales declined because some companies failed to meet changing demands for specialized tools or to match Japanese productivity in standard tools. If so, protecting the weakest companies would only hinder consolidating production in a few dozen American firms that can rapidly adjust to change.

The market alone will not address the problem. Because many machine toolmakers are defense subcontractors, Government already has an enormous effect on the industry. The Academy recommends a more systematic Federal involvement, including subsidies for joint research and the diffusion of new technology. America has a big stake in this industry. The sooner the Commerce Department rejects import protection, the sooner Government can begin to think about more appropriate remedies.

Mr. **Luken**. No; I think if we are going to talk about free trade, one of the basic issues is whether one or the other government is subsidizing, whether it be subsidized technology, research and development, or production, it is still a subsidy, and it is hardly consistent with their espoused principle of free trade.

I wanted to make that point, and I'll let you finish your point, and I don't have anything further beyond that.

Mr. **Mack**. One of the concerns that we have, Mr. Chairman, is that there have been alternative suggestions advanced and some of them have been enumerated in the New York Times editorial.

I am not suggesting, Congressman Gonzalez, that you are posing credit allocation as an alternative to the granting of import relief on a limited basis to the machine tool industry. But people in the government sometimes say, "The real answer is—you fill in the blank—whatever it is—but not quotas."

Most of these suggestions are quite controversial. Most of them require legislative authority that would be controversial. We cannot make investment decisions based upon them.

There are others who say, "Things will get better. If we delay, if we do nothing, ultimately the machine tool industry will benefit from the rise in the general economy."

We are used to being a cyclical industry. Here is a chart expressing in constant dollars the cyclicality of the machine tool industry. It looks like a roller coaster. This is World War II; this is Korea; here is where we are now—the lowest point since the 1930's, in constant dollars. Indeed, the industry is used to going into and coming out of economic downturns.

The problem is that this time around for the first time in history, this industry is coming out of a recessionary period with a level of 36 percent imports. After the last major recession in 1974 the import penetration was one-third of that.

So it is, we believe, unreasonable to assume that things will get better in this industry—which is, as we had pointed out, the base of everything else we do in this country—without some temporary restraint on import penetration. Mr. Sharpe and others in the industry need some time to regroup, and to gain the wherewithall to make the investment required to come up with the domestic production capacity necessary to maintain or to deter a national emergency.

Mr. **Sharpe**. Mr. Chairman, if I may have just a moment more of your time.

Mr. **Luken**. All right; just a moment.

Mr. **Sharpe**. This is a rare opportunity. I am one of the few dinosaurs left in the industry who was around in the Korean conflict, and I remember June 25, 1950, the day that they crossed the Yalu, and this country found itself in a hot shooting situation.

I saw the orders of our company go from a desultory few machines a week up to the month of July 1950, during which there were many days, if not every day, of that month, when our incoming orders were over 100 machines a day.

There is literally nobody left who remembers the tremendous dependence momentarily placed on the machine tool industry. That was largely a reflection of the fact that we still had in the companies of America the purchasing agents who had just emerged from

World War II 7 years before, and they knew the first thing you do when there is a national emergency is order the machine tools.

Today I am afraid our purchasing agents are less experienced. They don't know what a war will mean, and I don't expect that the Nation's purchasing agents will ever administer that kind of chain pulling again.

I just cannot imagine our giving such a burst of orders to companies in Japan and Germany and expecting them of necessity not only to respond but to somehow to actually deliver with certainty the products ordered months, maybe years later, across sea lanes that will almost surely be interdicted. I worry too about how they will service such machines. Even the machines that are already here will need repair parts, many of which are now sophisticated because electronics are now involved: You cannot make them anywhere except in the factory where they were made.

These are sidelights which, when you say we don't need a machine tool industry within the borders of this country, you had better think twice.

Mr. **Luken**. Anything further from these witnesses?

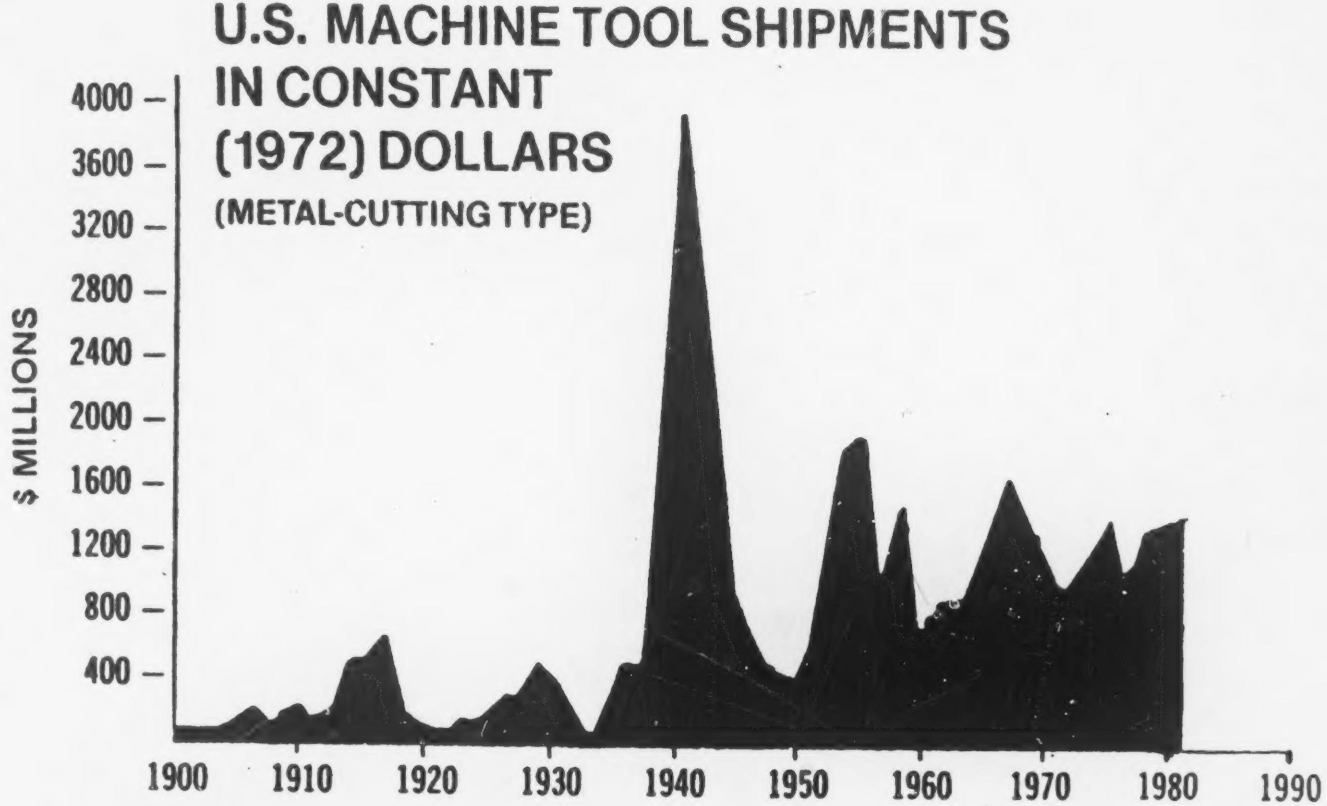
Mr. **Gonzalez**. Mr. Chairman, if I may ask Mr. Mack—is that chart that he referred to a while ago in the presentation he gave?

Mr. **Mack**. We will provide it for the record.

Mr. **Gonzalez**. I wonder if I could ask unanimous consent that that chart be provided for the record.

Mr. **Luken**. Without objection.

[The chart follows:]



U.S. MACHINE TOOL SHIPMENTS IN CONSTANT (1972) DOLLARS

(METAL-CUTTING TYPE)

Prepared by NATIONAL MACHINE TOOL BUILDERS ASSOCIATION 9/79

Mr. LUKEN. Well, thank you very much, gentlemen, for your very helpful insights. Now we will move along to Mr. John Latona, who is vice president, law, and corporate secretary of Houdaille.

Your testimony has been received and, without objection, will be included in the report.

Mr. Latona, part of your presentation will be electronic; is that correct?

Mr. LATONA. Yes, sir.

Mr. LUKEN. You want to give it orally first; is that right?

Mr. LATONA. Yes, I think I will make a few general comments and then swing to the tape.

Mr. LUKEN. All right.

TESTIMONY OF JOHN LATONA, VICE PRESIDENT OF LAW, HOUDAILLE INDUSTRIES, INC.

Mr. LATONA. It is a pleasure to be here. We have fought together on some other battlefields in the past and enjoy being here with you.

Our submitted remarks are generally descriptive of the Houdaille experience on this issue, and I am not going to repeat them.

[Mr. Latona's prepared statement follows:]

PREPARED STATEMENT OF JOHN LATONA, VICE PRESIDENT OF LAW, HOUDAILLE INDUSTRIES, INC.

Mr. Chairman, in May 1982, Houdaille Industries, Inc., a diversified manufacturer of industrial products including machine tools, filed a petition with the office of the U.S. Trade Representative asking that the President deny the Investment Tax Credit to purchasers of certain Japanese machine tools. The petition was submitted pursuant to Section 103 of the Revenue Act of 1971.

In April of 1983, President Reagan denied our request for relief under Section 103. Administration officials had told us many months earlier that no action would be taken under Section 103 but that if corrective action were to be taken, it would be on the authority of Section 301 of the Trade Act of 1974, as amended. Section 301 requires essentially the same showing of unfair trade practices as 103, but provides a much wider range of remedies, including tariffs and quotas. Thus, the President's denial of our petition under Section 103 still leaves a possibility for action under Section 301 in the future.

In the meanwhile Ambassador Brock's staff and other trade officials have begun discussions with Japanese officials to learn more about Japanese industrial policies, also known as targeting policies. The Japanese have promised to "speak truthfully" about these matters, but, based on our experience in this case, we remain skeptical about just how candid the Japanese Government officials will be. We learned the hard way that precisely the right question has to be asked of precisely the right Japanese official to obtain correct pertinent information. At this point, Houdaille is awaiting the outcome of these talks and considering its options. We have not given up our fight for equitable trade relations with Japan.

Let me now put our efforts into chronological order, concluding with a description of how, in spite of the case we made, in the end the President succumbed to pressure from Japan.

Anyone wishing the full details of our description of unfair Japanese trade and industry targeting practices in the machine tool industry should read the comprehensively documented petition we submitted to the President through the U.S. Trade

Representative on May 3, 1982, and later submissions we made to the Trade Representative's office. In addition to the legal analysis of our position, they contain hundreds of pages of official Japanese government documents, both in Japanese and in English translation, describing the official creation of a Japanese machine tool cartel and the wide variety of financial assistance given the cartel by the Japanese government. No one has challenged the veracity of those documents.

In addition, Mr. Copaken of our law firm, Covington & Burling, has made an extraordinarily revealing set of video tapes of his meetings with Japanese officials at technical research facilities funded and, in one case, operated by Japan's Ministry of International Trade and Industry. These tapes prove that our petition is not based on some legal abstraction. They depict in concrete terms what Japanese industry targeting means today.

My statement this morning will merely highlight our findings and describe some of our experiences as we have struggled to bring an element of equity to the fundamentally unfair battle between individual U.S.

machine tool producers and the government-backed machine tool cartel of Japan.

Article after article and expert after expert is telling manufacturers that we ought to be ashamed of ourselves for letting the Japanese beat us with their superior quality, better economics, improved technology, etc., all of which have occurred by virtue of their dedication to achievement, their system of lifetime employment, etc. To all of that, we say "phooey."

In industry after industry and particularly in that segment of the machine tool industry we are most interested in, we have found that Japanese achievements have resulted in large measure from very well organized, very well implemented plans initiated by their government to target penetration by its industry of world markets -- especially the United States market because it is the world's largest.

We are a major manufacturer of technologically advanced computer controlled (NC) machining centers and punching machines. We have watched Japanese penetration in those two product lines soar miraculously from around the 4% range as recently as 1976 to approximately 60% and 46%, respectively, in the most recent period. We set out to determine how this was accomplished, for, if the trend continued unabated, the United States machine tool industry would fall mortally wounded before any action under the traditionally available trade laws could be taken.

Approximately two years ago we were becoming increasingly aware of the dramatic inroads being made by Japanese machine tool manufacturers in the U.S. marketplace. Conditions have since become far worse, intensified by the economic downturn, and felt most severely by capital goods manufacturers. There has been a turn around in the past few months, but orders are still critically low.

Phillip A. O'Reilly, President and Chief Executive Officer of Houdaille Industries, Inc., has long believed that the Investment Credit should be limited to U.S. value added. In discussing the possibility of legislation to accomplish this, Section 103 of the Revenue Act of 1971 was brought to our attention by Jim Mack of the National Machine Tool Builders' Association. Section 103 gives the President discretion to deny the Investment Credit to foreign goods where the foreign country has engaged in policies unfairly burdening U.S. commerce.

But why turn to Section 103, unused and unheralded, when other remedies ostensibly were available? Section 103 provides a very effective remedy with maximum administrative flexibility. Proceedings under Section 201 of the Trade Act of 1974 invariably take a very long time and many of those who proved their case under 201 still failed to obtain relief. Section 301 of the Trade Act of 1974 had been invoked a comparatively few times and, although some informal government-to-government settlements were achieved, no one had been granted relief under it. There is no need to go on. Anyone familiar with the field knows that in the past the deck has been stacked against U.S. businesses seeking equitable relief from unfair foreign governmental policies and practices. The road is long and arduous, the cost prohibitive and the outcome certain only in the sense that defeat is the greatest likelihood.

We therefore decided that invoking an unused statute might enable us to move more quickly, and achieve favorable results. We also felt that the unique nature of the remedy, and the breadth of the President's discretionary authority that, incidentally, had never been delegated to any agency and therefore was devoid of any red tape, surely made swift use of this statute possible and, we hoped, more likely.

Mr. Copaken determined that our case had to be firmly based on facts rather than conjecture or strong feelings. He and Mr. O'Reilly actually went to Japan and interviewed Japanese officials. The Japanese are forthcoming only if asked precisely the right question and only if precisely the right Japanese is asked. O'Reilly and Copaken scored some direct hits. Also essential to our findings were the efforts of a leading Japanese law firm we retained to analyze and translate Japanese laws and government orders for Mr. Copaken. The results of all these efforts are now on file with the Trade Representative's office: Chapter and verse on the creation and maintenance of the machine tool cartel by MITI and the subsidization of that cartel by a bewildering variety of loans, grants, tax concessions and the now-famous bicycle and motorcycle race betting funds.

The Japanese machine-tool cartel was formed in response to the first of a series of three special laws for the promotion of the machinery industry. In enacting these laws the government of Japan launched an ambitious crusade to seize the higher value-added and most technologically advanced market segment of this fundamental industry. Although these laws were officially characterized as temporary measures, they have remained in effect since 1956 -- one "temporary" measure following on the heels of another.

The Japanese Ministry of International Trade and Industry ("MITI") used the free hand given to it by these laws to weed out manufacturers with small market shares. Each firm whose production constituted less than 5 percent of the Japanese market in a specific machine tool and less than 20 percent of the company's total enterprise was directed to stop manufacturing those tools. The market shares thereby relinquished were turned over to a limited number of larger, more successful producers. Under MITI's guidance these companies then exploited the consequent economies of scale and specialization to penetrate export markets, secure in the knowledge that these advantages would be protected against competitive erosion in the Japanese market.

In taking these actions the government of Japan catapulted its cartel into the high-technology end of the market. MITI successfully pressed the Japanese machine tool manufacturers to act jointly to concentrate their efforts in developing and producing NC machine tools. Each company in the cartel was directed by MITI to increase to 50 percent the NC share of its total production of machine tools. In addition, the cartel was directed to expand its collaborative efforts to include suppliers, customers, service, and other activities.

With the long-range goal of selectively penetrating and dominating important export markets as its guiding principle, the government of Japan devised imaginative strategies for financing this cartel with tax advantages, concessionary loans, research grants, and other direct and indirect subsidies.

In the most unusual example, nearly a billion dollars a year worth of yen generated by wagering on bicycle and motorcycle races in Japan were and continue to be made available for promoting the Japanese machinery industry, including the machine tool cartel, and the export of these products.

MITI officials confirmed the government's use of this mechanism to support Japan's machinery industry including, specifically, the machine tool segment, but downplayed its importance by quantifying the bicycle racing proceeds subsidy at less than one-half million dollars a year. In preparing our Petition we relied on those assurances, although MITI would not provide documentation in spite of our repeatedly submitted written questions.

Their assurances turned out to be false. We now have official Japanese government and private documents which reveal that in the 1979 Japanese fiscal year, some 919 million dollars were made available from wagers on bicycle and motorcycle races alone to promote the Japanese machinery industry and in Japanese fiscal year 1980, 823 million dollars. This assumes a conversion rate of 201.3975 yen to the dollar in 1979 and 229.66 yen to the dollar in 1980. In yen, the 1980 figure was actually 4 billion yen higher than in 1979. Those who manufacture other machinery products would do well to investigate how their Japanese competitors are benefitting from this annual largess.

The results of this targeting of the U.S. machine tool marketplace were dramatic. The Japanese now make over 50% of the sales in the high technology sectors of the business. Because of the government assistance they receive, members of the cartel offer U.S. buyers good products at competitive prices with quick delivery and quick service. We have demonstrated that these positive attributes are the result of massive government assistance, not superior engineering or management. Nevertheless, there are those in our country who do not look behind the Japanese products to see the role of government subsidy.

The facts are these: Japanese machine tools are not technologically superior to those made in the U.S. In fact, virtually all Japanese machine tools are directly copied from U.S. designs obtained through licensing agreements or reverse engineering. At the direction of their government, Japanese manufacturers set out to obtain the best designs in the world. They found them in the U.S.

Their ability to deliver stems from their large inventories of machines. U.S. manufacturers generally build to order and thus have longer lead times. It does not require a marketing genius to realize that having machines in inventory gives a seller a decided advantage with buyers. However, U.S. machine tool makers were simply unable to finance the huge costs of such inventories while the Japanese were because of government subsidies.

The same holds true for service. With government help it is possible to maintain larger staffs of service people than those employed by individual private companies. The bottom line is this: The competitive advantage developed by the Japanese following 1976 to the present was not the result of superior skill and effort, but the result of a cartel with a deep pocket, in this case, the pocket of the government of Japan.

We do not view our petition as having been protectionist in any sense. We believe in free trade. We are confident that in a fair fight we can compete with any private manufacturing concern. Competing with a government the size of Japan's is another matter. As long as it provides the extraordinary range of subsidies and direction as we have revealed, we see no free trade theory which justifies the U.S. allowing its manufacturers to lose business and its workers to lose jobs. The Houdaille Petition gave the President a rare opportunity to take an affirmative action for free trade by forcing the Japanese to moderate their practices to a more acceptable level of free and fair competition.

The detailed documentation of Japan's industrial policy that we have provided transformed our case from one of parochial concern into a major opportunity for enhancing the leverage of the United States to open Japanese markets and assure that United States industry and jobs are not lost to unfair cartel competition.

Despite years of talk, the government of Japan continues to resist opening its markets in any significant way to free competition. Until the United States shifts from talk to action, it will always be so. We consider it to be tragic that such an opportunity for making free trade work has been missed.

The Houdaille Petition was the subject of much extremely heated discussion at all levels of the trade bureaucracy. Agencies involved included the U.S. Trade Representative, the departments of Commerce, Treasury and State, plus the National Security Council, the Office of Management and Budget and the Council of Economic Advisors. The departments of Defense, Labor, Transportation and Agriculture also had some input.

The issues were: are Houdaille's facts correct and, if so, what action, if any, should be taken? As the dispute wore on, Houdaille provided voluminous additional amounts of evidence. Further requests for data were made of us which were clearly unreasonable such as: what are the actual costs of making machine tools in Japan and in the United States? In addition to the massive amount of work such research would entail, it also posed obvious legal problems. We could not ask our competitors for their costs without violating the antitrust laws, yet some government officials wanted us to provide that information. After a while it became clear that these requests for additional information were adversarial in nature, designed to harass us, and not for the purpose of gaining more information.

Eventually the conflicting parties within the Administration came to a grudging unanimous agreement: the facts as alleged by Houdaille were correct and they were legally sufficient to warrant taking action under Section 301. Even with this agreement on the facts, and the law, there were those in the Administration who did not want to act. Some were opposed on ideological grounds. They felt that no action by a trading partner, no matter how unfair, could justify erection of any retaliatory trade barrier by the U.S. Others did not want to offend the Japanese, who are extremely sensitive to charges of unfairness leveled at their trade and industrial policies. Some in the Administration supported us strongly, notably Ambassador Brock and Commerce Secretary Baldridge.

In late April, it was decided finally to put the decision to the President. Given the agreement on the facts and their legal implications, officials who favored taking a stand with Japan that would enable the United States to negotiate from a position of strength were optimistic. However, an extraordinary, last-minute intervention by the Japanese government, including personal communication from Prime Minister

Nakasone to President Reagan, turned the tide. Sensitive to Japanese feelings and concerned about Nakasone's chances in upcoming political tests in Japan, the President denied Houdaille's request for relief under Section 103, refrained from taking action under Section 301, and accepted in exchange only assurances from the Japanese that they would "speak truthfully" about their trade practices and industrial targeting policies.

Houdaille is not giving up. But America must wake up. We cannot have our critical industries picked off one by one in the name of free trade. American businesses and American workers cannot be burdened with a double standard which allows other nations to practice all of the elements of targeting while we remain "free." Free trade in free markets is the best economic system, but it is not now taking place. Our competitors are allowed the best of both worlds, support and protection from their government and our free markets. Unless we insist on world-wide free trade and enforce it with sanctions on those seeking to take advantage of our economy, a bleak future is before all of us. The United States must see to it that all trade takes place under the same set of rules.

Mr. Luken. I think you should set the stage for generally what the Houdaille case is, what the basis is, and so on.

Mr. Latona. I was going to focus as to how our experience would impact as well on small businesses, although as a matter of fact of course nobody is big enough to take on the Japanese Government, which is really what is being asked of people in the machine tool industry.

There are some people who say that maybe IBM is that big. That may or may not be true, but certainly there is nobody in the machine tool industry big enough.

Mr. Luken. We won't necessarily restrict ours by the fact that we are a small business committee; they are all related, and let's consider this as a trade hearing.

Mr. Latona. OK.

What takes place is, the Japanese Government and, in this particular case, other governments, engage in this; the others are not quite as good at it as the Japanese are in what is known now by the code word of targeting.

There are a number of specific steps that take place in the targeting process. Once the Government has ascertained which market, which product it wants to emphasize, a series of steps are then taken. The first step is to close the domestic market to foreign competitive goods.

At the time this was done in Japan, United States products were greatly superior and way ahead of the Japanese products, and the only way they could get the Japanese machine tool industry on its feet in the area of numerical controls—what are now computer controls—would be to, and was to, foreclose the market to U.S. products.

They then went into subsidizing the producers of machine tools in Japan through a whole variety of techniques, direct grants, low-interest loans, no-interest loans, tax writeoffs of all kinds, and the now famous bicycle racing money.

Japanese bet some $5 billion a year on bicycle races; $1 billion of that is taken out to administer the thing and to pay the race tracks, and $3 billion is given back to the folks who bet, and approximately $1 billion is used to subsidize the machinery industry in Japan, of which the machine tool industry is a major segment. They also create a cartel in the industry involved.

Mr. Luken. This would be similar to our paramutual betting?

Mr. Latona. Exactly the same. There are some States where they take the money out.

Mr. Luken. This is Federal Government, whereas I don't think the Federal Government has been involved yet in this kind of——

Mr. Latona. The Federal Government in Japan directs—they actually control the expenditure of about $100 million of those funds and the remaining $800-plus million in the figures that we have spent by the local prefectures, but also in this area of the machinery industry, and at the direction of MITI; they have to get approval of MITI.

There are those in the administration who feel that doesn't constitute the Japanese Government spending that money; to me, that is trying to be clever with words.

Mr. Luken. It comes from a State-run parimutuel.

Mr. LATONA. Yes, sir.

They control the expenditure of it, MITI.

Mr. LUKEN. A State-run betting operation.

Mr. LATONA. Yes, sir.

Mr. LUKEN. So it is Government funded.

Mr. LATONA. You bet. They create a cartel, and that cartel directs the sharing of technology, the sharing of market information, the sharing of market activities.

If you are not big enough or strong enough, you are ordered out of the business in order to give the volume—the advantage of volume production, to the more successful manufacturers.

The Government will then—if you are one of those who are ordered out of the business, because you haven't been successful enough, you are assisted into going into some other line of work, and then once they have gotten the domestic market built up to a place where financially and in terms of quality of the product are strong enough to go into the export market, they are then given all this assistance in the same fashion to go into export markets.

In the case of machine tools, of course the obvious market is the United States, which makes up roughly half of the machine tool marketplace of the world.

They did, and they were extremely successful at it in machining centers; the Japanese had roughly 4 percent of the marketplace in the United States in 1976; they now have over 70 percent of the market.

In lathes, numerically controlled lathes, roughly the same numbers. In punching machines, another critical type of machine tool, they went from 4-percent roughly in 1976 to about 50 percent.

Mr. LUKEN. This is the more sophisticated?

Mr. LATONA. Yes, sir, what we refer to as NC, numerically controlled, computer controlled machine tools. It is the high end of the technology, technology which was developed here in the United States, technology then acquired by the Japanese in various ways, and they have been extraordinarily successful here, far more successful than they have in the auto industry or steel industry and all those other industries we read more about in the newspapers.

Of course there are more people involved in those industries than there are in machine tools. They have been far more successful in machine tools and in the critical areas of the machine tool industry than they have been elsewhere.

Now, we have been told, it has been suggested that this success was due to some shortcomings on the part of the U.S. machine tool industry—we didn't invest enough, didn't work hard enough, were not smart enough.

If that were true, we would have seen any number of other countries take over our market, not just the Japanese. They make very good machine tools in Germany. They make good machine tools in France and Italy and England, any number of countries. None of those countries have increased their market share in the United States, only the Japanese.

The Japanese have been spectacularly successful given these varieties of subsidies that we have documented, given the existence of the machine tool cartel which we have documented. It seems to me much more logical to conclude it was all those things which accomplished the Japanese penetration of this market plus our own willingness to allow this stuff in than it was the fact that the Japanese are so much smarter than we are or work so much harder than we do.

Representative Gonzalez has mentioned a number of times today credit allocation. The Japanese of course have a closed financial system, and even without subsidies, the Japanese manufacturers borrow money at anywhere from a third to a half of the price that Americans borrow money at, and given that advantage alone, it is a very, very difficult competitive situation. When you throw in all of these other grants, loans, and tax wrinkles; it makes it basically impossible.

That is why you are seeing the machining center business being wiped out in this country. There is no question, there will be no standard machining centers made in the United States within a couple of years. We have already seen major manufacturers going offshore; others are considering it; they absolutely have to.

You cannot stay in business when your competitor has that great of an advantage—absolutely impossible—and we will see the end of the machining center business in the United States; we will see, I think—I am not as knowledgeable because we are not manufacturers in any large sense of lathes—every indication the same thing would happen with numerically controlled lathes. Punching machines would take longer because their position is not as strong there; our position is stronger; but the trend is clear, and U.S. companies will not continue to receive investment. Where that is present, you are throwing your money away.

That affects not only the machine tool manufacturers themselves; it affects not only the people who are competing directly with these subsidized foreign products; but it of course affects all kinds of other companies and frequently smaller companies, those who are the vendors, who are the suppliers, to those machine tool companies.

We had to close down a plant in Lake City, MN, simply because of the degree of penetration of the U.S. marketplace by the Japanese. We could not sustain production in two facilities. We had to close one down. It is not just the folks who work at this plant, but the people who supplied products to that plant.

Mr. LUKEN. By which you mean Houdaille?

Mr. LATONA. Yes, sir; but the same thing has happened to any number of people in the machine tool industry. Warner and Swasey recently being sold off, a Bendix division. Warner & Swasey already made—announced plans for going offshore with much of their manufacturing. Acme-Cleveland, holding what amounted to a fire sale of production equipment in Cleveland. Tragic, tragic stuff to anybody who is familiar with the machine tool industry.

Mr. LUKEN. All right. You have personally had some experience with the Japanese—right?—that you wanted to relate to us.

Mr. LATONA. Well, we have had any number of experiences.

Mr. O'Reilly has been to Japan to participate in the investigation that led to our petition. We also think you are probably referring to the incident that was on "60 Minutes" which we really considered to be, at the time it happened back in 1977, just a conventional trade business dispute rather than an international governmental matter, but they were a licensee of ours and all of a sudden turned up with a machine that was very similar to our machine, which they were going to sell outside the license agreement.

Mr. LUKEN. When you first licensed Yamazaki?

Mr. LATONA. Yes, sir.

Mr. LUKEN. What year was that?

Mr. LATONA. Oh, boy, that would probably go back to the late 1960's, early 1970's.

Mr. LUKEN. At the time in Japan, the law was such that was the only way you could sell.

Mr. LATONA. We couldn't export NC equipment machine tools into Japan.

Mr. LUKEN. Absolutely prohibited.

Mr. LATONA. If they could get permission from the Government and one or two machines were sold, but you could not export and sell as a matter of fact.

Mr. LUKEN. You licensed them because that was the only way you could sell there.

Mr. LATONA. Yes, sir.

Mr. LUKEN. Even though the legal prohibition is now off since 1973, has it in practice remained the same?

Mr. LATONA. We went and interviewed one of the large Government consumers. As you know, the telephone company and railroad company there are owned by the Government—asked them if they had any restrictions on their ability to purchase U.S. machine tools, and they said no, they no longer had those restrictions on them. Well, had they bought any U.S. machine tools? Well, no, they hadn't. Did they have any plans to buy any U.S. machine tools? No, they didn't—and asked them why. "Well, with perfectly good Japanese machine tools, why should we buy American machine tools?"

In the face of that kind of situation, it is hard to get anyone to invest in the effort to try to crack into that market. It is just considered to be not worth the effort. Why invest those funds when you can invest them someplace else and have a much higher chance of successful sale of your goods?

We are quite aggressive overseas with selling our machine tools even though—this is a separate issue, but with the export trading controls of course we are, for all intents and purposes, barred from the eastern European market which is a substantial machine tool market, as you know.

This is a separate issue, and it gets back into this issue only in that of course our allies, even though they are ostensibly bound by the same commitment not to sell these sophisticated machine tools to the Soviet bloc, do, and so what happens is that the Soviets get the stuff. Our competitors have the economic advantage of being able to sell to them, and we have a further restriction of our ability to sell, and restriction on the volume and advantages that come with those greater volumes that one has in terms of being able to raise funds for new investment or maybe be able to shave price of products in order to compete someplace else. We are at a substantial disadvantage because of our inability to sell into those markets.

As I say, it seems to be no handicap to our competitors, particularly the Japanese, who are quite aggressive selling over there even though, as I say, they are supposedly bound by the same rules we are.

So we feel quite strongly; we feel it affects not just the machine tool industry particularly but all aspects of American industry. We feel it is time that a message was sent to our trading partners, that a message was sent to the American people, that the United States is no longer going to tolerate other countries playing by these nonfree trade rules and at the same time telling us that we have to tolerate that in the name of free trade.

We believe in free trade, and we want free trade and want free trade enforced in this marketplace, and we would be quite happy at that point.

Now we have a videotape which is a condensation of experiences that our attorney Dick Copaken of Covington & Burling had, and I am not sure whether Mr. O'Reilly was with him on this particular visit or not, but you will see some of the experiences that we were able to document with regard to the various ways that the Japanese government provides research facilities and other kinds of advantages to Japanese machine tool manufacturers.

Mr. LUKEN. Mr. Sabbath will narrate this portion.

Mr. SABBATH. We have four specific clips to look at. I would ask you to comment after each one. Start the first one.

[A film clip was shown.]

Mr. LATONA. This is one of many research facilities. You saw the outside of the building, and you saw the array of machinery inside the one portion that was videotaped. There are numerous similar facilities around Japan.

Later on you will see a map of the facility with the buildings on it. These are large buildings, some of them 10 or 12 stories. This is not a minor or desultory activity. This is major activity of the Japanese Government, and they are doing research in all manners of applications of technology for commercial purposes.

The basic technology, the machine tool industry has been developed in the United States, and the United States is still the leader of new technology. What the Japanese do in these facilities and at the universities is to take the basic technology that is developed primarily in the United States—some of it in Europe—and refine it, advance it, develop commercial applications, and make those applications available to the Japanese industry.

A good example right now, they are spending a lot of money on developing ceramics for various industrial applications, and as that relates to machine tools, developing cutting tools for working ceramics, and also using ceramics as cutting materials rather than metal.

Mr. SABBATH. Let's go to the second clip.

[A film clip was shown.]

Mr. LATONA. This is a situation where a small manufacturer came to the research facility. They had been forging a particular part, and they wanted to find out if it were more practical to use a machine tool that would cut the metal rather than forge the metal. The Government facility provides this assistance at no cost.

Invariably, they do recommend that they go into NC machining center applications rather than forging, and later on there is a little part where they ask them, do they always recommend that they buy Japanese machine tools. And everyone sort of nods and laughs and says yes.

This is all provided free of cost. This is not a direct subsidy to a machine tool company, but this is a real inducement to the customers or potential customers. It creates customers for the machine tool industry in Japan.

Mr. SABBATH. Are those type facilities available to your company in the United States?

Mr. LATONA. No.

Mr. SABBATH. Thank you. Let's go to the next one.

[A film clip was shown.]

Mr. LATONA. Again, the Government facility took some existing technology, refined it, developed it into a machine, and this technology then turned over to Japanese manufacturers.

Mr. SABBATH. All right.

[A film clip was shown.]

Mr. LATONA. I hope they show the map. You can see the size of the facility.

There you are. That is a whole campus of buildings. Machinery building 3, machinery building 4, mechanical engineering building 2. It is an extraordinary facility. We are not talking about a couple of rooms someplace.

Automobile building 2, production engineering building 1, production engineering building 2, production engineering building 3.

These are the two fellows. They are telling Mr. Copaken he can't come on because he works for Houdaille.

[A film clip was shown.]

Mr. LATONA. I think that makes the point both of what their capability is, what they have told people they are willing to do, that that technology is available because, as you know, a lot of the technology that is generated in this country—not through any assistance to the machine tool industry, but assistance to develop defense contractors—up until very recently that technology has been available across the board, and the Japanese have benefitted from that. They have also benefitted, of course, from the developments that are provided by those expenditures at no cost to themselves.

Mr. LUKEN. Well, as I understand it, before the President finally made the decision, which he did on Houdaille, right?

Mr. LATONA. About a year ago.

Mr. LUKEN. As has been frequently speculated in the nonpartisan American press, the President made that decision on the basis of his decision as to the higher-level relationship that he had with Nakasone, and this Government would have rather than on the merits of the individual case.

Mr. LATONA. Yes, sir, we were told that he had been contacted directly.

Mr. LUKEN. The merits of this individual case were dealt with by the Commerce Department and the recommendation was made that the decision would be not to extend the 10 percent, not to continue the 10-percent investment tax credit.

Mr. **Latona**. The U.S. Trade Representative's office handled this matter, not the Commerce Department.

Yes, they were recommending something stronger than that. What we had originally asked for was a tenth of the investment tax credit for imported goods, and we went under a section of the Revenue Act of 1971 which gives the President that authority, and the Trade Representative's office ultimately came to the conclusion that that remedy was not sufficiently strong to protect the industry and to give the Japanese the message. And it was our understanding that had the President agreed to go along with the financing, they would have made that a 301 finding, and would then have formulated remedies under Section 301 of the trade law.

But in any event, none of that came about because the President ruled against us under our petition, and then said that he would get the Japanese to agree to discuss the details of their trade policies and those discussions—the decision was made in April—those discussions began in June and were supposed to take place within a month or two.

Those discussions are still going on, to my knowledge.

Mr. **Luken**. There is no disincentive for the Japanese to continue the discussions endlessly?

Mr. **Latona**. Well, there are people, again, who—you know, it is our understanding that essentially everything that we have presented in the petition—you have to understand what is in the petition is not somebody's opinion or something somebody was told in a bar in Nagoya—we have got inches, literally inches of official Government documents—for them to deny that this stuff goes on. Some of it they no longer do in the formal sense. And we have letters in which they send out and say even more, although they are no longer doing this formally under MITI direction—but you understand that you are to continue to behave in the same fashion even though the official document, the official regulation is no longer in place. And so some people say they are not doing it any more. To us they still are.

There are people in the administration who feel only $100 million are being spent off the bicycle fund rather than $900 million plus that we have documented because the remaining $800 million goes through the prefectures but only with MITI approval. To me that is still the Japanese Government directing those funds, and we are just kidding ourselves to say it is not. Even $100 million is not an insignificant amount of money, on an annual basis, and then they say, "Well, you haven't documented every penny of that which goes to the machine tool industry, as opposed to other aspects of the machinery industry."

Well, some of these items you can quibble over whether it is going to the machine tool industry or not. Our feeling is rather than quibble with Houdaille as to how many yen precisely are going into the machine tools, they ought to be looking into what other industries are being subsidized with those funds, what other industries in the United States are going to be subject to this kind of competition based on subsidies and worrying about that, rather than hassling Houdaille, "You haven't documented where every last yen goes." You start to wonder——

Mr. LUKEN. The President had an agreed statement of facts which included as an example the subsidies that you have just mentioned, at least $100 million and——

Mr. LATONA. Yes, sir.

Mr. LUKEN [continuing]. Some portion of the remaining $900 million which are distributed in such a fashion that they cannot be followed. So that the exact amount of that $900 million which is applied to the machine tool industry cannot be ascertained. But this agreed statement of facts was submitted to the President.

Who agreed to this?

I assume those within the administration who were proponents of the President making a decision in favor of the domestic machine tool industry and those who were opponents?

Mr. LATONA. Yes, sir. The facts were agreed to as our understandings were agreed to by a sub-Cabinet committee, and there were those——

Mr. LUKEN. Including the free traders and protectionists?

Mr. LATONA. Yes, sir. Some of them tried to back away later on, but their staffs had signed off on this.

One gentleman who is no longer in the Government said he didn't care what the facts were, and there are those who will say, "Yes, maybe that is all true, but it doesn't matter. We are still for free trade and we are not going to go for protectionism, no matter what." That is a sort of religious kind of belief rather than anything else.

Mr. LUKEN. Just as to the agreed statement of facts, what we mean—I want to get it across what you mean—this is in the record—as to agreed facts, meaning that there were those within the administration who would characterize themselves as free traders who agreed to these facts, but nevertheless said that despite these facts, they believed that any action would be protectionism, and they opposed it. Therefore, they would recommend to the President that he deny the petition and the President did.

Mr. LATONA. Yes, sir. Although we understand that the President's decision was made more on the basis of the intervention from the Japanese Government than on the persuasiveness of the free traders.

Mr. GONZALEZ. Did the President's decision base itself on your view of section 103 or 301?

Mr. LATONA. We had petitioned under section 103 of the Revenue Act and it was that, specifically, which was turned down.

Mr. GONZALEZ. But you were advised to proceed under 301. Was that subsequent to the decision?

Mr. LATONA. No, let me back up.

Mr. GONZALEZ. That is what?

Mr. LATONA. We petitioned under 103 and we submitted that petition to the President through the U.S. Trade Representative's office. Nobody had done this before, so there wasn't any formal pathway.

Once the Trade Representative's office got into it and examined the facts and so on and so forth, they came to the conclusion that the most effective action that could be taken would be best taken under 301. The administration has the authority to self-initiate actions under 301, so they did not need anybody to file a petition.

They could look at—in fact, 301—actually, they can do what they can do under 103, under 301. As 301 authorizes them to use any remedy available. So it was their feeling that had the President supported the petition, they would have acted under 301 on a self-initiated basis rather than 103.

Mr. GONZALEZ. Because they could have had a wider amplitude of relief?

Mr. LATONA. Yes, sir.

Mr. GONZALEZ. If they decided to use their initiative, their option under the broader 301, I see here the same pattern, say, with the European—in the European context.

The big issue on the pipeline, the gas pipeline, Siberia into West Germany, because in all of these transactions, we must remember that Japan was prostrate and it could not have risen unless there had been an interlocking of American commercial investment, financial interests with the Japanese. So in all of this you find a greater international backdrop where you have American interests heavily involved who naturally question the wisdom of protectionism, as they call it.

Mr. LATONA. I am not aware of any American involvement in Japanese industry, generally, and certainly not aware of it in the machine tool industry.

It is all homegrown. The Japanese financial system, as I understand it, is a closed one, and they don't have a pension system; really, they don't have a social security, and so on. All this money is extracted from the workers.

Mr. GONZALEZ. No, no, it is not unlike Germany, for that matter, or the British. The British, for instance, in the competition in the airplane manufacturing, airplane engines and the like, they have the same restrictions that the Japanese use against our automobiles.

Mr. LATONA. Yes.

Mr. GONZALEZ. They set up standards that they know are not going to be met. So that is not protectionism.

Mr. LATONA. The English can invest outside of England. Basically, the Japanese cannot.

Mr. GONZALEZ. Well, but the AG of reference in the backdrop of your international financial resources, yes, you do. I was going to offer the European example, the gas pipeline. The President did his best to try to get, quote, unquote, "the Allies to embargo the technological means that apparently they felt the Russians had to have to complete it." It has been completed. They are delivering gas. But one of the things that never has been reported in the American press is that the gas pipeline company, known as Ruhr Gas, is substantially owned by Exxon and Mobil, which in turn are substantially owned by Chase Manhattan and First City, respectively.

Mr. LATONA. I was not aware of that.

Mr. GONZALEZ. That, in turn, involves very heavily structuralization and your banking resources, because Chase Manhattan is a principal stockholder of Exxon, for instance. So you get into very intricate mechanisms that are a sophicated knob——

Mr. LATONA. You are way over my head.

Mr. GONZALEZ. It really isn't that complicated, but it is obfuscated to make it complicated. It is very simple and that is, like Rockefeller said himself, "Well, you know, not all Communist regimes are bad. There are some we can do business with."

I am saying until we recognize the inextricable language of the resources, financial, economic resources, that make possible the modern day—in World War I and after World War I the word was cartel. Today multinational or whatever, which is a lot more intricate, a lot more complicated in a sense; but, nevertheless, the issue basically is the same, and that is that each nation, insofar as it can control the allocation on the priority of the allocation of its credit resources, without which you don't have any industrial activity or any formal production activity, much, is really in the hands of forces that transcend the purely national or domestic. And my contention is until we address that in terms of the reality of today's world, we will be batting our head and decisions will be made somewhere else.

On the farm, for instance, the principal grain companies—the popular American opinion doesn't hold this way, but they are foreign-owned. Cargill and others, they are foreign-owned. They are not American. So that when they speculate on the futures and all which determine the American wheat growers', grain growers' prices, those decisions are being made in Brussels, they are being made in London, even in Argentina, not here.

We don't have the safeguards like we don't have in industry, that say Canada has—and Canada has a National Grain Board. They cannot sell internationally their production of grain unless it is handled nationally from a national perspective. We don't.

Now, I am not saying that I am smart enough to tell you we should or we shouldn't or should structure the same—I don't know enough about that. All I know is that if you are in competition and it is stacked against you, and that in the final realm that we can expect to have anything other than what is happening to us happen—and, yes, I think that there is a lot—I am not saying that we shouldn't proceed in taking advantage of what the law provides, in fighting against the unjust dumping, but, that is just a reflection of this other war that we have been losing.

Mr. LATONA. There is no question the cost of capital is an absolutely basic element. They pay one-third to a half.

Mr. LUKEN. We thank you, Mr. Gonzalez, and thank you again, Mr. Latona.

Mr. LATONA. My pleasure.

Mr. LUKEN. We will move on now to the last of our witnesses for today, who are Mr. Harold Snow and Mr. David Troutman, will approach. You are both with the management and labor side, is that right? Which one would like to go first?

TESTIMONY OF DAVID W. TROUTMAN, VICE PRESIDENT OF INDUSTRIAL RELATIONS, HPM CORP.; ACCOMPANIED BY HAROLD SNOW, PRESIDENT, LOCAL 1319, INTERNATIONAL ASSOCIATION OF MACHINISTS

Mr. TROUTMAN. I think I, since we start things by first having a place to employ people, will start.

Mr. LUKEN. You are Mr. Troutman?

Mr. TROUTMAN. Yes, sir.

Mr. LUKEN. We have your statement and it has been accepted into the record.

[Mr. Troutman's prepared statement follows:]

PREPARED STATEMENT OF DAVID W. TROUTMAN, VICE PRESIDENT OF INDUSTRIAL RELATIONS, HPM CORP.

We are here today because the president of our Company's local Union, and our employees, became outraged when they finally became aware of the affects of foreign competition on their livelihood.

HPM Corporation is a small to medium sized Ohio Corporation located in Mt. Gilead (population 3,000) within the county of Morrow (population 26,000). HPM and its predecessor corporations have been in the machinery manufacturing business since 1877, although HPM Corporation itself is only seven years old.

Our story is a little different, and we're kind of proud of it. We bought ourselves from a large construction equipment manufacturing company in 1976. This was accomplished by the employees of HPM Corporation putting up their savings to raise capital and by providing the opportunity for longer service employees to roll over their prior profit sharing dollars, designate investment, and purchase HPM stock. Although there were a number of financing alternatives available, we didn't seek any special hand-outs. We just wanted the opportunity to compete and potentially succeed on our own. Today, seven years later, over three-fourths of the corporation's stock remains in employees' hands.

The principal business of HPM is a machinery manufacturer in three major product lines. As a machine tool builder, we manufacture and sell die casting equipment to many industries. Our principal product lines are plastic injection molding machinery and plastic extrusion machinery. We produce some of the most sophisticated and high technology equipment manufactured in the United States. Our reputation as a machinery manufacturer has always been and we expect will always be the quality manufacturer who provides equipment to its customers on the leading edge of technology.

Our machine lines range in size from very small, 75 ton plastic injection molding machines to 3,000 ton injection and die casting machines.

In our seven full years of business operations, we have made $8 million in after tax profits and in the last two years, $2.4 million in net losses for a seven-year result of $5.6 million in profits on $262 million in sales volume. During this period of time, we have invested over $12.5 million in machinery and equipment to improve our competitiveness.

The net result is we're good at what we do and we do it well. We can compete domestically, but we are steadily and dramatically losing ground to foreign competition. The problems are:

1) The current strength of the U.S. dollar with the German mark caused us to lose two 400 ton die casting machines just a few months ago to a German company who was not a factor in the marketplace two years ago. The loss of these machines represented loss of 40 more months of work for employees in Mt. Gilead, Ohio.

2) Even more recently, we lost eight 3,000 ton plastic injection molding machines for the manufacture of automotive bumpers to a Japanese company. There is no question that the controlled value of the yen in regards to the dollar played a substantial part in the loss of 100 jobs for a year to our central Ohio community. Equipment delivery was also a consideration. Ube could deliver in 30 weeks versus over 40. We are uncertain whether or not there were additional considerations in this particular order. We are at a substantial disadvantage in that much of the machinery on the shores of the United States from Japan is handled through trading companies, which makes it impossible to ever accurately determine whether price competition is real or rigged. Even with Japan's 35% plus unit labor cost advantage, it is hard to believe this type of

specialized, high technology equipment can be manufactured in Japan, fully assembled and tested, disassembled, shipped 10,000 miles to central Michigan, reassembled on site and put into operation for lower costs to this buyer.

Somehow, the export climate is different for foreign manufacturers. Their countries give them a decisive edge. Financing packages to buyers are greatly enhanced and frequently come out to 4 or 5% below the kinds of financing we can find to help our customer buy U.S. machinery. These financing arrangements end up being discounts. Many of the foreign manufacturers have gained advantages in their technology areas. Group sharing of technology, government financed R & D programs, shared information, some of which are impossible in this country give them a decided edge. Some of these activities run counter to U.S. Anti-trust laws, others are low priority projects for funding. In recent years, American manufacturers haven't had the profitability needed to make the significant investment required to keep up, much less catch up.

Looking at U.S export opportunities to sell in foreign countries presents barriers that are unfavorable to U.S. manufacturers. The import requirements, tariffs and trade barriers make it almost impossible to sell our equipment, particularly where similar equipment is made in that country. We have made major efforts to build up our export business. We were successful in selling high technology and quality machinery until the price differentials and trade restrictions brought it to almost nothing. Exporting to Mexico, South America, E.E.C. countries and Canada represented 10 to 15% of HPM's annual volume through 1981. In the past two years that loss has represented true lost business and lost jobs.

The realities of what's occurring to us in a small town in central Ohio is frightening. The alternatives to slowly going out of business and losing all of the jobs that we are responsible for in our community are not all that good. Since we are survivors, we will try to do whatever is necessary to stay in business.

Some of the actions by our domestic competitors charted direction for our industry that is not totally palitable for us. Some of you may be aware that recently Cincinnati Milicron, one of the largest machine tool builders left in the United States, and also one of the largest plastic injection molding machinery manufacturers, recently announced a joint venture with Fanuc, Limited of Japan, reportedly because they cannot compete in the Far East with U.S. built machinery.

Fanuc is licensed to build the full line of toggle injection molding machines manufactured by Cincinnati Milicron and will sell them exclusively in Japan and Korea and non-exclusively in Taiwan. Their agreement also calls for cooperation in machine designs with emphasis on servo-technology and electronic controls. Since Fanuc is a major manufacturer of electronic control systems, this will open up to Cincinnati Milicron the opportunity for R & D and technology sharing and perhaps even control purchases for equipment built in the United States. Obviously, some of the machines that Cincinnati will sell in Japan could represent American jobs if the U.S. company could competitively sell to that market. As many of you are also aware, Cincinnati also has an Austrian plant building machinery to furnish the European market and also benefit from more aggressive export support from the Austrian government.

World wide sourcing can have its advantages but it favors the larger companies who have more economic clout and puts smaller businesses such as HPM Corporation behind the 8-ball. Will an HPM be able to stay in business with our concentration on domestic capability? Are we forcing our U.S. companies to find ways to access the advantages of foreign sourcing to stay in business? Will we have a machinery industry left? Does anybody care? We need your help. While we at HPM don't believe in trade barriers as a long-term solution, we see the need for breathing room to develop a course that is sound for us and the U.S.A. The NMTBA has been working hard for Section 232 protection to assure our national defense capabilities in case of national emergency. We support their action. But longer term solutions are required.

A weaker dollar would help but the side effects may be more severe than the disease. We believe it is more appropriate to concentrate on:

1) Removal of trade barriers for U.S. Exports.

2) Improved export financing support for small and medium sized businesses.

3) Better cost recovery on productivity investments.

4) Review of anti-trust laws that make it more difficult for U.S. companies to compete with foreign companies.

We don't want any special treatment. We just want to compete where the rules are the same for all.

Chairman Lukens and Other Honorable Members of This Committee:

My name is Harold F. Snow. I am president of Local 1319 of the International Association of Machinists. The Local is the Bargaining Unit for the HPM Corporation, Mt. Gilead, Ohio. As of January, 1980, the Union had 610 members working. We currently have 385. The unemployment rate for Morrow County, Ohio, of which HPM is the largest manufacturer and employer, is 15.1%.

Chairman Lukens, the Ford Motor Company has recently purchased (8) 3,000 ton injection molding machines from a Japanese firm (UBE). This action, according to our best estimate represents a loss of 100 jobs for at least one year, not to mention the loss of orders to the suppliers from whom the Company buys. Congressmen, free trade is one thing, but let's make it Fair Trade.

As it stands today, industry in this country cannot continue to survive against high tariffs used against us, low values of foreign currency, for example the aggressive holding down the value of the yen, and the subsidized industries (Houdaille's petition), which we must compete with in the International arena. And to make the situation worse, the Export-Import Bank provides cheap loans to countries whose industries are in direct competition with industries in this country that are in financial trouble. Recently (February 1, 1984) Lee Iacocca urged Congress to pass a bill that will focus financial aid on companies that need it most, especially those competing with foreign firms. I join him in this effort.

As an interesting note, the Union membership extended the contract with HPM for one year to try and wait out the depression in the machine tool industry. The Union also established a food bank to help assist those families that are hurting because of the economy.

Congressmen, the "Rust Bowl", as we are commonly called by the media, needs some "oil", and that is immediate help from you.

PROPOSED RESOLUTION

BE IT RESOLVED THAT:

WHEREAS, Morrow County is a depressed area with an unemployment rate of 13.7% (February 1984); and

WHEREAS, the HPM Corporation of Mount Gilead, Ohio is the principal source of employment in this county; and

WHEREAS, the Ford Motor Company recently rejected a bid from HPM to supply them eight (8) 3000 ton injection molding machines and then ordered them from a Japanese firm; and

WHEREAS, the equivalent of 100 jobs for one year were lost due to this decision by the Ford Motor Company; and

WHEREAS, the action of the Ford Motor Company in purchasing equipment from a foreign supplier is contrary to their "buy American" campaign; and

THEREFORE, Be It Resolved that the Village Council and Mayor of the Village of Mount Gilead, Ohio hereby urges state and federal legislative bodies to pursue legislation that would protect and support American industry in competing with foreign competitors; and further urges American industry to shop "American" at all times when the opportunity arises.

This resolution passed March 19, 1984 by the Village Council of Mount Gilead, Mount Gilead, Ohio.

Betty Williams
Clerk-Treasurer

Earl F. Gottschall
President of Council

Charles Giauque
Mayor

Mr. TROUTMAN. Thank you.

Mr. LUKEN. Perhaps you would take 5 minutes and we will move along, then.

Mr. TROUTMAN. I would like to summarize a few observations that I have made, and in the process try to take a different perspective than what I have heard here today.

We are representing the grass roots of America in many respects in at least the approach that Hank Snow and I have to offer.

We are really the result of what is occurring as far as the competition and depression we have seen in the machinery manufacturing industry. While HPM has been in business since 1877, we really have only been in business for about 7 years. We bought ourselves out from a major company about 7 years ago, using a little bit of capital and a lot of hard work. We rolled over an employee profit sharing plan, and we didn't take advantage of ESOP, but employees designated their investment and decided to buy some HPM stock. About 300 employees of our 700 at the time invested on the average of $4,000 each to capitalize a company that had been in the machine tool business for a heck of a long time.

Since then we have had some good times and particularly recently we have had some extremely bad times. We are in the real grasslands of Ohio. Mount Gilead is the principal location of HPM, although we have another facility in New Britain, CT. We have about 3,000 people in our major metropolis-Mt. Gilead. Our county has about 26,000 people, and when we are up the county is up, and when we are down, obviously, everybody else is down.

We fluctuate in size between a large business and a small business, and that is only because of what has happened to us in the last couple of years.

Right now we are employing about 600 people. At times we have been up to 1,200 to 1,400. Unfortunately, last year we were down as low as almost 300.

We have seen a permanent loss of jobs within the last couple of years, mostly because of the export problem and the import problem, both of which have had effects on us. We can't express it any more clearly. We can't compete because of all the problems that you have already heard today. The imports are really taking their shots at us in a new way. We are really in the machine tool business—in one aspect of our business, which is die casting machinery. In the principal parts of our business, that is, plastic injection molding machinery and plastic extrusion machinery, we have also been impacted by imports.

I think the most recent examples that have really brought us together here as a union/management team that in many respects may only be a short-lived love affair—we are currently at the bargaining table, I might add, and our bargaining process is going to be very, very difficult and it is highly likely that we will end up in some kind of severe confrontation. But on this issue we don't have any disagreements at all.

In any event, we recently lost some major orders to foreign competition that we hadn't seen before, and, in fact, in the 3,000-ton injection molding machine business, which are extremely large pieces of equipment, we have successfully furnished some of the best technology in this country in that area. We are now seeing Japanese imports into the State of Michigan.

We are looking at machines that represent extremely advanced technology. There certainly is not an extremely large market, but we are seeing that competition. Our competitors are going to deliver machinery 10,000 miles after it has been tested in Japan, broken down, put back together, retested in Michigan, and it really amazes us how they can do that at lower selling prices even though they do have roughly a 35-percent unit labor cost advantage. But somehow or other the ball game really isn't the same. Even though this isn't machine tools, it certainly has its impact on us.

We come out of a little county that does a lot of things. We are very, very conservative, principally a Republican area, but that doesn't really mean anything as far as jobs and small business. During this last recession, because HPM went down, the number of members in our local Chamber of Commerce diminished by 20 percent. The impact we had on small businesses in our community was very severe. Just yesterday, we lost our fourth largest employer in the community, a grain elevator of all things, but in our community there are really only three manufacturing businesses, and a lot of other people that are supported and that feed off of those industries.

We used to do about 15 percent or $10 million a year in export business into Canada, Mexico, Brazil, France, and other countries, for both technology purposes and other purposes. That is gone. We don't have that opportunity any more, because we are not getting a fair shake. And because we are not getting a fair shake, it is impacting small town America even worse. There is no replacement for the jobs that we are going to lose as a result of that. We are not compassionate with that problem.

One thing that demonstrates some of our conservatism, and one of the things we are kind of proud of, at least in our metropolis, is during World War I, per capitawise, we were the largest contributor to U.S. war bonds. Believe it or not in the center of Mt. Gilead we have a gift given by the Federal Government itself, a monument that takes up the square of the town because the town was as aggressive and supportive as it was.

But, if you will notice in the last part of our testimony, we had an attachment that was pretty amazing to us. Hank Snow mentioned to our local mayor one afternoon some of the problems that we saw that were facing HPM. That evening in the Village Council, without any additional information, the local town council said, "Hey. This problem is impacting all of us, even though an indirect problem. We want to make sure we have total and complete community support," and I think this is what we are seeing. It is a little bit of grass roots America saying we need to solve this problem. Until you solve the problem by looking at some kind of trade policy that is not a policy, that is overly influenced by a foreign policy, and until we come to grips with how to solve that, and how to make a national policy on trade that is not impacted by foreign policy, we will not be competitive.

I think that is all I have to say.

Mr. **LUKEN**. Thank you, Mr. Troutman.

Mr. Harold Snow, you are with the Machinists Union and you represent the HPM?

Mr. SNOW. Yes, sir.

Mr. LUKEN. You have a contract with HPM?

Mr. SNOW. Yes, sir.

Mr. Chairman, we have dropped from 610 members in 1980 to 385 and——

Mr. LUKEN. At HPM?

Mr. SNOW. Yes, sir. And as my transcript says, it is the largest manufacturer and employer in this county, and I am severely concerned about what is going on in this country. And as Mr. Troutman alluded to, this is a very conservative area. These people normally do not write anyone on such matters. It is a rare occasion when they get up in arms to this extent.

I have had letters, I have seen them, from total dismay to outright outrage on this situation. They are concerned that they write their Congressman, Senators, et cetera, and they get form letters back. They are concerned about what is going to happen in this country.

I am concerned what is going to happen in this country. I am concerned about the testimony that I have heard today. It is just my feeling on it, too. The yen is being artificially held down. We have a high dollar situation in this country, which is killing us. I can recall back years ago when we exported at HPM. We are not exporting now.

I can relate to back when I first started into industry. I worked at a PPG industry in Mt. Vernon, and there is no longer a PPG in Mt. Vernon. The imports were the greatest contributing factor in their demise. There are two smokestacks standing there today and that is it; 700 people, maybe, were affected.

I moved to Cooper Industries. Cooper Industries located a plant in Stratford, Canada. It took many jobs away from the people in Mt. Vernon, and we never have recovered there.

And it is quite a concern to me, quite a concern to my members. They have went so far as to go to several TV stations, went so far as to go to numerous, I mean many, radio stations, newspapers, and I have testimony that I would like to submit into the record from some of these individuals that I think will point out just what I have been emphasizing here, that the people are concerned, at the grass roots.

Mr. LUKEN. Do you have that with you?

Mr. SNOW. Yes, sir, we have copies. We will give them to you at the end of the hearing.

Mr. LUKEN. Without objection, they will be received.

[The information follows:]

Mar. 20, - 84
Mt. Gilead, O

To Whom it may concern,

I just wish to express my concern over the recent development of Ford Motor Co. buying the large presses from the Ube Co. of Japan. I have a two fold reason for this concern because I not only work at H.P.M. Corp. at Mt. Gilead, Ohio but my wife and I have a small business (Decorating Store) also in Mt. Gilead, O. The loss of work and or income in this area affects us, my family, in both ways

This along with the closing (Bankruptcy) of the largest mill (Farm Connector) in the county this week, will have far reaching affects on our farming community along with the proposed closings of factorys in neighboring communities - Tecumseh Marion etc. could have very far reaching affects on all of us here in Central Ohio

My concern goes much deeper than this as to the direction we are headed in our country as a whole

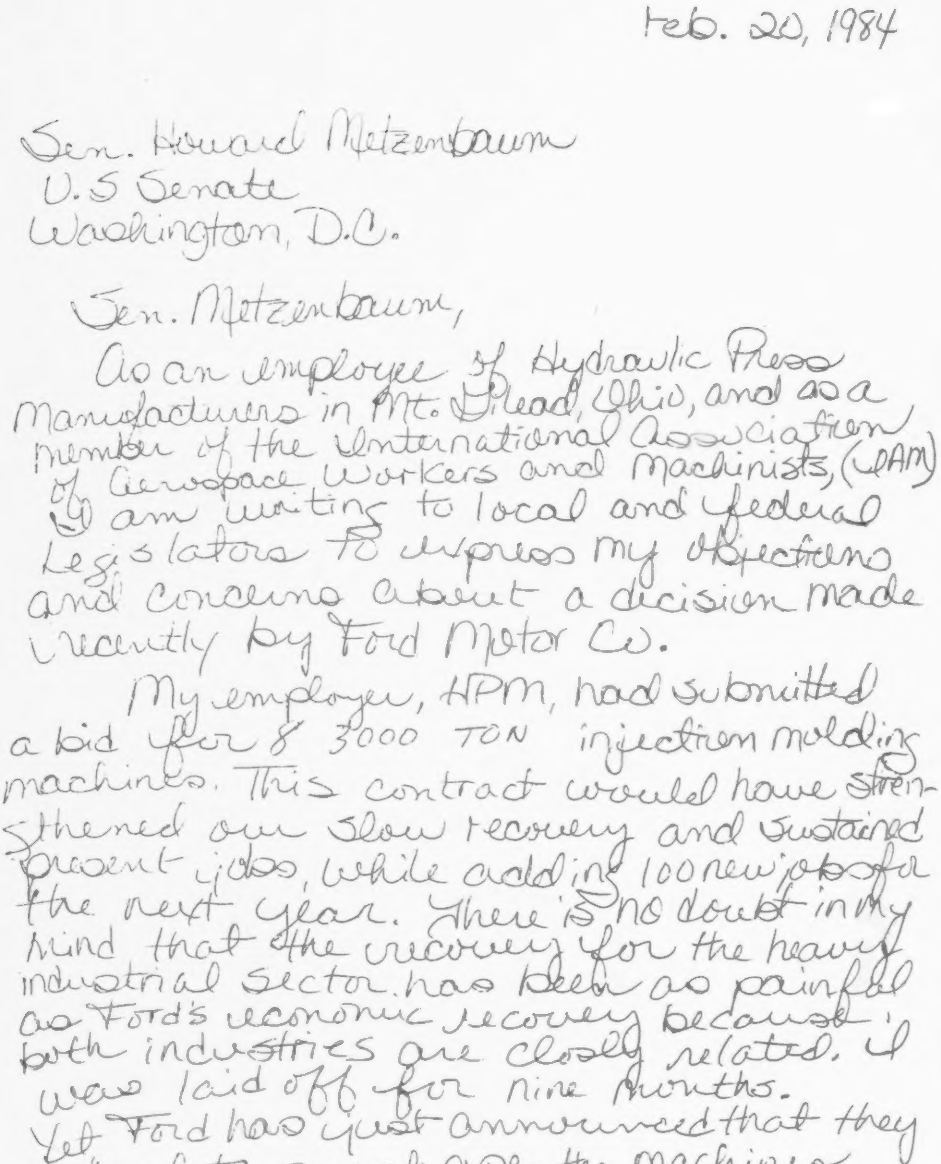
Concerned Citizen
Robert E. Furniss
4077 Twp. Rd. 111
Mt. Gilead. Ohio

John Sprague
708 W. Marion Rd.
Mt Gilead, Ohio 43338

To me it seemes that there is something wrong with the thinking in this country; laws should not have to be passed or incentives offered. What ever happened to patriotism? It appears to have gone down the drain along with the american worker, the american dream and american industry

Part of Ford motor company's address is "The American Road" yet they buy there injection machines from Japan. There add says "buy American" yet they themselves do not. I just can't help but think that this is just poor management.

However; I'm sure that if this is brought to Fords attention they would find some way to put the blame on the sholders of the american ~~[illegible]~~ worker. It appears that it will take incentives to prod these companies to follow there own advise



Feb. 20, 1984

Sen. Howard Metzenbaum
U.S Senate
Washington, D.C.

Sen. Metzenbaum,

As an employee of Hydraulic Press Manufacturers in Mt. Gilead, Ohio, and as a member of the International Association of Aerospace Workers and Machinists, (IAM) I am writing to local and federal Legislators to express my objections and concerns about a dicision made recently by Ford Motor Co.

My employer, HPM, had submitted a bid for 8 3000 TON injection molding machines. This contract would have strengthened our slow recovery and sustained present jobs, while adding 100 new jobs for the next year. There is no doubt in my mind that the recovery for the heavy industrial sector has been as painful as Ford's economic recovery because both industries are closely related. I was laid off for nine months.

Yet Ford has just announced that they intend to purchase the machines from Uke, a Japanese company.

Of all the American industries, Ford should understand the damage foreign government subsidized competition has on the labor force in this country. Ford advertises and coaxes Americans to "Buy American," but do they?

Further, I feel it is time that government officials investigate these practices by companies like Ford who receive tax credit for large capital investments such as these. Ford surely did not give American labor a shot in the arm, but more a kick in the teeth!

With Due Respect
Douglas E. Frank

To Whom It May Concern;

As a member of the work force of this great country, I am quite concerned about the state of our economy, due to the epidemic influx of imported materials.

It is this influx of materials that is putting Americans out of work and causing American Companies to fold.

What ever happened to Presidents Kennedys words when he said, "Ask not what your country can do for you, but what you can do for your country".

As a retired military man, I served my country for over twenty years, fighting in two wars to insure world peace and the American dream. After I retired, I found that I could not support my family on my pay. I entered the work force of America, and found that due to the foreign imports, that I can not support my family due to layoffs. Once again due to foreign trade.
I began my own small business to compensate my retirement income and to help during layoffs. Now I find that due to cheap foreign imports, I am still unable to support my family.

I am not naive enough to think that America can exist with out trading with her allies. But then I'm not stupid enough to believe tnat we can exist by allowing foreign trade to dominate this land.

I have written to all of my Congressmen, U.S.Senators, our Governor and to President Reagan. I have recieved from them, form letters that have been typed in advance, just to appease us by using Political retoric, or more plainly, a bunch of sensless double talk.

It is time that we got back to the basic belief, that we the people are the backbone of this country.

It is time that we the people, let you know that we are tired of your retoric,(or hogwash) that we hear coming from Washington.

It is time that you, our elected Representivies stand and be counted by the workers of America.

As you well know, the conquest for "BIG BUCKS", have taken the once, common sense business man out of this country and into the foreign market place.

They trade our high technology for cheap and somtimes counterfeit trade goods.

American Motors signed contracts with Red China,(our sworn enemies)to have jeeps made by slave labor so they can make more money.

Ford motor company, who advertises "Buy American", but then they go to Japan to buy molding machines.

The list can go on , enough so that a book can be filled.

Any company ~~that~~ that takes the attitude that they should buy cheap foreign material is actually selling out America and is adding to her demise xxxxxxxxilyx economically.

We also bring foreign students,(both free world and communist) to this country, educate them at our universities so they in turn can go back to their native land, and use this knowledge to help wreck this countryes economy. The communist students,especially Red China, uses this technology to sell to other communist countries for their war machinery.

The fault lies with you, our elected pepresentives, for allowing this national disgrace to happen.

You tell us that the only way to lower the Nation debt, is to raise taxes, and yet, you pour millions of dollars in to the foreign market place and encourage more foreign trade.

What about the people of this country, they eleced you,not big business or foreign trade. You are supposed to work for us, the American people, not the companies or the foreign market place.

I fully understand however, if it was not for big business I would not be working at all, they gave me a job and pay my wages but if They continue to buy foreign products not only will my job be in jeporday but so will the whole of the American people.

Once again I say the fault lies with you for allowing this to happen to this country.

Charles N. Hudgel
Charles N. Hudgel
5720 Co.Rd. 30
Mt. Gilead, Ohio
43338

Mr. SNOW. I feel like Lee Iaccoca when he testified on February 1. He urged Congress to pass a bill that would focus financial aid on companies that needed it most, especially those competing with foreign firms. I join him in this effort. Something has got to be turned around. We cannot continue to compete. As a union, we cannot stand to keep seeing the demise of the industries in this country. Our union can't stand it. We need help and we need it now. The bottom line says we are commonly called the Rust Bowl, and we need some oil, and the only place we can get it is here.

Mr. LUKEN. All right. We thank you very much.

The gentleman from Texas, Mr. Gonzalez.

Mr. GONZALEZ. Oh, thank you very much. I don't really have any questions. I want to thank the two witnesses, though. I am distressed as I have been with the other cases from the neighboring State of Pennsylvania, very similar. But thank you very much for your presence.

You say you have about 600 employees at the present time?

Mr. TROUTMAN. At the present time, that is correct.

Mr. LUKEN. 600 total and 385 in the bargaining unit?

Mr. TROUTMAN. That is right.

Mr. LUKEN. Mr. Troutman, do you believe that the American machine tools are as advanced as the Japanese?

Mr. TROUTMAN. I think we are every bit as advanced or at least were.

Mr. LUKEN. So that is not the differential?

Mr. TROUTMAN. Not necessarily. In fact, not too long ago we, in the small part of our business that we are really exceptional and have the best technology in the world, which is rotor die cast manufacturing, although that also is a shrinking industry—but that makes small electric motors. We make them automatically with plates, et cetera. We had an inquiry and request to purchase a machine not too long ago from Mashushita Electric. They didn't want 10 machines, they wanted one. Upon further investigation, we found out that the plant that they were going to put this particular machine in was making about 30,000 small electric motors a day. Mashushita makes products for Panasonic. That one machine was going to make about 3,000 rotors a day. Obviously, they wanted that machine because we do have the best technology in the world. It was just a recent case of purchasing additional technology. We had enough, and ended up deciding to not sell them that machine.

Mr. LUKEN. They were going to copy the machine?

Mr. TROUTMAN. Yes. It was obvious to us that was their intention. We are different than those other manufacturers in that respect. We still buy American. Most of the equipment that we bought with our little bit of capitalization, in fact, all of our new equipment, $12 million in new machinery was purchased in the last 7 years, and it is American made.

We just recently made an acquisition of a $3 million Ingersall planer mill, which cost us more than the original capitalization of the business 7 years ago. We wouldn't take any foreign manufacturers quotas on that equipment. We are a little unique in that respect. We are not going to be able to maintain that posture and compete in the future in the present environment.

One of our biggest competitors, in fact our two biggest competitors in the plastic machinery market, are located in Ohio, Cincinnati Milicron in Cincinnati, OH and Vandorn in Cleveland OH. All of us are feeling the same pinches. The more our competitors go with licensing agreements across the pond or in Japan or elsewhere, obviously we are going to have to follow that same tack. It is a tack that naturally we are not in agreement with.

We are going to survive because we are survivors. We have more than money invested in our business. We are in business to be in business, almost. We are in business because we like to be in business. We like to work hard. We are part of the old American ethics which somehow, some people may think it is lost. We don't think so—not in our area. We are going to survive. We are going to do things we don't really want to do to survive and we are going to do it alone because we don't think anybody really cares.

Mr. LUKEN. There is one other question I had as far as I am concerned before winding up the hearing for today.

There seems to have been more than a bit of testimony, references to the alleged fact of the Japanese ability to deliver faster than Americans. Would either of you comment on that? I think the other claims have been we have discussed and explained. What would be the reason for—is that a fact?

Mr. TROUTMAN. It seems realistic to us. We have seen it, although to a great degree because they can inventory here in the United States and with finished product. I don't know how, exactly.

Mr. LUKEN. Why can they inventory better or more than the domestic companies?

Mr. TROUTMAN. I can't answer that. That is beyond the scope of my experience, but I am sure there is an answer for that somehow or other. Somehow, they can afford to do it someway or other.

Mr. LUKEN. Capitalize for lower interest rates, that would help?

Mr. TROUTMAN. Interest rates may be one of the reasons.

My personal view, that is one offset of many problems without the broader direction. If, in fact, we are going to continue our current policies in not really caring, not really making a decision, no matter what we do in the finance community or other places, are really not going to be successful in addressing the problems of the flow of American jobs and technology and the resulting flowout of skills of the grass roots of the people.

There is no other business in the world that is as broad and gives people the skills that you can never take away, and you don't have to be a genius in order to obtain them. You need a lot of training. That is mainly the kind of businesses in manufacturing machine tools, or other machinery that HPM is in.

We are looking at other areas, not just machine tools, when we take away the machine tools from this country and the rest of the machinery businesses—that is where we are really going to be even in more difficulty. Everything isn't totally dependent on machine tools. The plastics machinery that we have now developed through the processing and the capabilities that we have are just as critical to both the development and the rest of American manufacturing.

Mr. SNOW. I could add to that. There was a time they used to make shell presses at HPM.

Mr. TROUTMAN. We were principally like the many other machinery manufacturers. We went from marginal business to more business than we could handle during World War II and during Korea. We probably have 500 shell press lines in arsenals throughout the world that we continue to supply spare parts for, even though many are sitting there very idle. I am not sure we will be around to supply the rest of those parts if they ever really need to go back to those kind of shells, but the machinery is still sitting in arsenals.

Mr. GONZALEZ. It just occurred to me, what about the allegation of the differential labor costs? One of the mentioned arguments is that American labor production, which is per capita production, is inferior to the Japanese.

Mr. SNOW. I simply don't believe that. I believe if we are given the same opportunity, I believe we can compete with them, no problem. I have great confidence in the American worker whether he is union or nonunion. I still have great confidence in their ability, their ingenuity. You cannot see the emphasis; you cannot compete against a low yen-high dollar. That is a tremendous advantage right there. Subsidizing that is going on. Houdaille's case—that is a perfect example. You can go down and down and it says—you know, we in the labor movement are appalled at this situation. We really are. This keeps going on and on and on. Unemployment gets bigger, the trade deficit gets bigger. What is going to happen?

Mr. GONZALEZ. I would like to refer the chairman to a presentation by a gentleman from Brookings here at the hearings we had a week or 2 weeks ago chaired by Parren Mitchell. It may be relevant to today's hearings in the context of the issue that I have been trying to bring out, which you substantiate here. That is at the heart of the matter, and the presentation by this gentleman clearly indicates that contrary to the very predictions he himself made in arguing for $8.4 billion for the IMF before our committee on banking last year. This is why I think it is very intriguing to look at it from this perspective. He came before this subcommittee and said this thing is about to burst.

You say:

> What is going to happen?
>
> Well, everyone is whistling in the dark. The President, the leaders in Congress, all the candidates for the Presidency are whistling in the dark, hoping things will hold together until November 6. What happens after November 6?

Well, but what I have been trying to remind them is that that is fine; if we look at it domestically, we reach the point where there are forces we cannot control that can determine a very different answer. And what I am afraid of, based even on what this gentleman from Brookings pointed out, he is an international financial expert—he was Assistant Secretary of Treasury for Monetary Affairs and International Monetary Affairs during the Carter regime—and he went back to Brookings where he had come from—what he is saying now, his name is Bergsten—is that it looks as if this is going to peak out pretty soon, and when that happens, well, then, what you are going to have is sort of the bubble bursting again. Then it will, of course, impact us.

What I have been worried about is that in not anticipating, we will then react with a knee jerk type of reaction and not the best.

In the meanwhile, of course, you had the symptoms such as the increase in the prime interest rate just announced this week, and the other concomitants. So I don't know. I hope we are all wrong.

However, no matter how much we hope, and know how much we may be optimistic by nature, we cannot escape the reality of the facts. And you talk about conservative/liberal. This is not an ideological. It is an economic. It is an area in which you are either right or you are wrong.

And when you set forces, as I see it, all through history, it isn't something new—the failure to have to observe and read history especially after World War I, I think we are paying a very heavy price for it. But at this point, unless there is a sudden intense revival of interest and concern and commitment, which I don't see on the congressional level—and it would take congressional level—short of crisis, I don't know.

Mr. **Snow**. One point that disturbs me. You asked how can they do it cheaper. If you have brand new equipment—and this is one of the articles I was referring to here—if you are going to build a brand new steel mill with U.S. tax dollars, at the expense of this country to put your own steel industries out of business, how could you compete with them? That doesn't mean that those people are better workers.

Mr. **Gonzalez**. No.

Mr. **Snow**. That means simply that they have got better equipment. We are asking for the same considerations that those people are getting.

Mr. **Gonzalez**. I didn't really ask how they could do it cheap. I was asking about the allegations made in our country to the effect that one of the factors is the higher proportional labor cost per man and output per man as compared to the Japanese. I was asking that question to see how you addressed it.

No. It is quite obvious, of course, the Japanese system as the gentleman who was here and reported on the videotape, is something that we can't quite equate. We would have to extrapolate a lot of factors. For example, our type of unemployment that the worker confronts is nothing at all what the Japanese worker—those same Japanese workers you saw in the factory are workers for life. If they should eventually find themselves not producing, not being able to find a market, they will still have employment. They will still be on the payroll.

On the other hand, their existence is the beehive existence as compared to the American societal which, of course, I don't think any one of us would want to trade.

What I am saying is when you interpose those into competition, what the equivalent of it has been—and I have said it on the House floor—is that these forces that have determined the credit allocations have, in effect, pitted the American worker with the slave labor. I have even used a pejorative term. I have said you put them in competition with every peon and every coolie of this world because the other factors have been put in that disadvantageous competition.

Mr. **Snow**. We are giving tax benefit incentives to companies that do this? Isn't it a fact that we got companies here doing this, going over there and exploiting the situation?

Mr. **Gonzalez**. There has been this interrelationship, naturally.

Mr. **Snow**. We are giving them tax incentives to do it.

Mr. **Gonzalez**. Well, the electronics, TV industry, you know the history of that domestic and what happens.

Mr. **Snow**. Ruined.

Mr. **Gonzalez**. Certainly, and how it has been pre-empted. Well, was it because the American TV labor manufacturer employer was not as efficient, did not produce as cheaply?

No, it was because that same investor behind the capitalization of the manufacturer, of electronic goods in the United States was in the meanwhile investing multinationally, so that what you find now is that your allocations of resources—credits are being made in those board rooms, not in the public Halls of Congress or the official room of the Presidency.

Such a structured entity as IMF—for example, this same gentleman I referred to, Bergsten, came before our committee. I jumped on him very severely when he came before the Banking Committee because I voted against IMF because it has been diverted from its original purpose. It is now sort of a banker of last resort for our bankers who have gone out on the debt limb that is wholly unacceptable. Their debt overhang exceeds their capitalization structure.

If your bank at Mount Gilead had that situation, it would have been declared insolvent. These are nine principal banks. So in order to rescue and allow these debtor nations to just pay their interest rollovers, the IMF have been diverted to that purpose. So American taxpayer is subsidizing our biggest bankers, the last one $8.4 billion.

When I saw that change after 1970 is when I stopped voting for that multinational lending institution known as IMF. But the IMF itself, in its original structuralization, was a compromise, and the promise was such that the Bank for International Settlements based in Switzerland, ended up being the winner. They were the same ones that ruled the day between the termination of World War I and the outbreak of World War II. And this is why I am saying that our study of history has been so deficient that we haven't profited from it. In both cases the American labor, American citizen, lost his level of standard of living.

We had the President of France before us yesterday. That was the main thrust of his address. He said,

> Hey, look, we made a deal in Williamsburg last year. Three-basis deal. We have kept the first one. What was the first one? To get away from the protectionism tendency. We have succeeded in that.

The other two, what were they? The structuralization of international situation financial situation, which would take into account the fact that the dollar will be declared officially the subordinate. That was done in the Bonn economic summit of 1979 when the EMS, European Monetary System, EM of European monetary funds were developed. You don't hear any discussion about it when President Carter attended that Bonn meeting, and they accepted in their communique in the last line. In effect, what they were acknowledging was the submergence of the American dollar and the gold holdings which are also critical here, but unaddressed.

So I hate to take all this time, but I think that the complexity of the issue that is now agitating us ought to be seen in its dimensions where the back approach is necessary so that we can have these other things that follow.

We have had it happen to us before. We did the same thing. We speculated in our credit sales after World War I, and the Europe that emerged changed as it did after World War II without our perceiving it that way. So that we then enabled for instance, the German Republic to provide safe and decent housing eliminate slums with our credit, while we were submerged in a depresssion and had the lowest or highest substandard housing then. Then through special targeted efforts over a 40-year period, America performed the miracle of the world. That is, it housed the Nation. From over 65 percent substandard housing in 1940, reduced that to 6 percent by 1980. We are now back into the decline. We have the same financial back mechanisms for mortgage procurement in the purchase of a house that we had in 1929 and 1930, 5 percent balloon. That is what we have degenerated to.

Also, the President of France yesterday addressed himself about how well France is doing. It is true. For the first time since World War II. Earlier this week there were some economic statistics brought out. Little note. For the first time every index, wages, housing, and the like, exceeds—the European worker in his level or standard of living for the first time exceeds the American net average worker level.

So this is where we are.

Now, if it looks as if it is irretrievable insofar as this structure that is a house of cards. You can't have this kind of debt structure where all of the credit resources represented by the savings, going through these banks, who in turn invest it just like they did after World War I. We had huge amounts of investment in German bonds of every kind, municipal bonds of Berlin, municipal bonds of some of the other cities, Japan. We, the bankers, Wall Street, like they did again during these hot periods. What do they call them high rollers? Did the same thing after World War I. We were buying Japanese Imperial Bonds, due to mature. They were 20-year and 25-year bonds. Some of them due to mature in 1941. That is when we got paid, at Pearl Harbor.

We have said the same thing. I remember when I was a kid in school, and the city converted from the trolley cars to the buses and they had all of these rail steel materials, and the Japanese were coming and buying it. There were a few Americans who said, "We had better watch about these things, the sale of this material." But the depression was on. We wanted business, and that scrap was sold to Japan. Well, it was fired back at us in 1941. The same issue.

Basically just it is awesome, and it hurts me to see that the priority that the American—after all what is our Government for if it isn't there structured for the purpose of defending the interest of the American people?

Mr. Snow. That is exactly the point. I agree with you.

Mr. Gonzalez. I wanted you to know there are many people that do care and that the fact that the chairman—and I want to praise him for calling this hearing and the one to follow—certainly demonstrates that there is an area of attention and care. We may not have the power, but then——

Mr. Luken. Well, as the gentleman from Texas pointed out earlier in the confusion, again, the power is vested in the people, and we may not have the individual power, but we may be part of this total power that is exerted, and we intend to make our contribution.

This has been the initial hearing of this series and we will be conferring with the other members of the committee as to where we go from here, but certainly this is a kickoff of a series of hearings, and I think that we have established the tone in these hearings. We have gotten into some of the specifics, but I think the principal thing that we have done—and I thank the gentleman from Texas for being such a great assistant as a matter of fact, offering his leadership in this regard—we have set the framework and set the tone for trying to do our part in solving these monumental problems for the American worker, for the American consumer, for the American business.

So, with that, if there is nothing further, the subcommittee will be adjourned.

We thank you both.

The subcommittee will be adjourned pending the call of the Chair.

[Whereupon, at 12:55 p.m., the subcommittee adjourned, to reconvene subject to call of the Chair.]

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